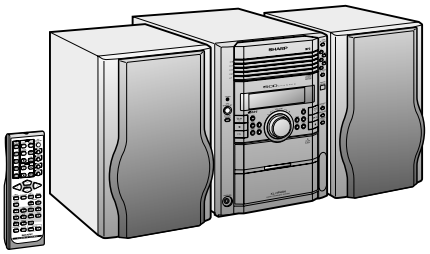
SHARP SERVICE MANUAL

No. S3409XLHP434H



MICRO COMPONENT SYSTEM

MODEL XL-HP434H

XL-HP434H Micro Component System consisting of XL-HP434H (main unit) and CP-HP434H (speaker system).

- In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

- **Note for users in U.K.**
  Recording and playback of any material may require consent which SHARP is unable to give. Please refer particularly to the provisions of Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1956, the Performers Protection Acts 1963 and 1972 and to any subsequent statutory enactments and orders.

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Parts Guide

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

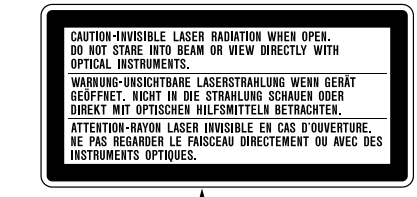
CHAPTER 1. GENERAL DESCRIPTION

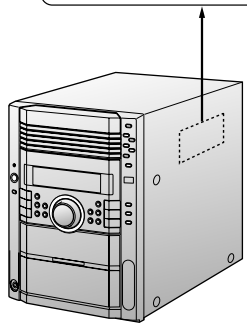
[1] SAFETY PRECAUTION FOR SERVICE MANUAL

Precaution to be taken when replacing and servicing the Laser Pickup.

The AEL (Accessible Emission Level) of Laser Power Output for this model is specified to be lower than Class 1 Requirements. However, the following precautions must be observed during servicing to protect your eyes against exposure to the Laser beam.

1) When the cabinet has been removed, the power is turned on without a compact disc, and the Pickup is on a position outer than the lead-in position, the Laser will light for several seconds to detect a disc. Do not look into the Pickup Lens.
2) The Laser Power Output of the Pickup inside the unit and replacement service parts have already been adjusted prior to shipping.
3) No adjustment to the Laser Power should be attempted when replacing or servicing the Pickup.
4) Under no circumstances look directly into the Pickup Lens at any time.
5) CAUTION - Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.


CAUTION-INVISIBLE LASER RADIATION WHEN OPEN.
DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
WARNUNG-UNSICHTBARE LASERSTRAHLUNG WENN GERÄT GEÖFFNET. NICHT IN DIE STRAHLUNG SCHAUEN ODER DIREKT MIT OPTISCHEN HILFSMITTELN BETRACHTEN.
ATTENTION-RAYON LASER INVISIBLE EN CAS D'OUVERTURE. NE PAS REGARDER LE FAISCEAU DIRECTEMENT OU AVEC DES INSTRUMENTS OPTIQUES.



Laser Diode Properties
Material: GaAlAs
Wavelength: 780 nm
Emission Duration: continuous
Laser Output: max. 0.6 mW

ADVERSEL-SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN-HELLER IKKE MED OPTISKE INSTRUMENTER.

VARO! AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ TUIJOTA SÄTEESEEN ÄLÄKÄ KATSO SITÄ OPTISEN LAITTEEN LÄPI.

VARNING-SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN GENOM OPTISKT INSTRUMENT.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING - OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERAS. KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

[2] SPECIFICATIONS

■ General

Power source	AC 230 V, 50 Hz
Power consumption	Power on: 100 W Power stand-by: 0.6 W (*)
Dimensions	Width: 185 mm (7-1/4") Height: 260 mm (10-1/4") Depth: 307 mm (12")
Weight	6.0 kg (13.2 lbs.)

(*)This power consumption value is obtained when the demonstration mode is cancelled in the power stand-by mode.

■ Amplifier

Output power	PMPO: 364 W MPO: 182 W (91 W + 91 W) (DIN 45 324) RMS: 100 W (50 W + 50 W) (DIN 45 324) RMS: 76 W (38 W + 38 W) (DIN 45 500)
Output terminals	Speakers: 6 ohms Headphones: 16 - 50 ohms (recommended: 32 ohms) Subwoofer pre-output (audio signal): 200 mV/10 k ohms at 70 Hz
Input terminals	Video/Auxiliary (audio signal): 500 mV/47 k ohms

■ CD player

Type	5-disc multi-play compact disc player
Signal readout	Non-contact, 3-beam semiconductor laser pickup
D/A converter	1-bit D/A converter
Frequency response	20 - 20,000 Hz
Dynamic range	90 dB (1 kHz)

■ Tuner

Frequency range	FM: 87.5 - 108.0 MHz AM: 522 - 1,620 kHz

■ Cassette deck

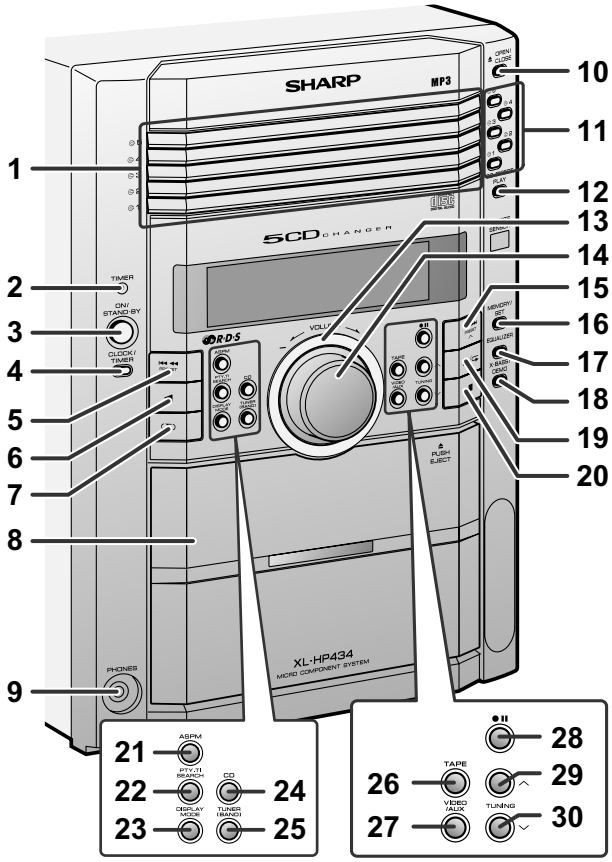
Frequency response	50 - 14,000 Hz (normal tape)
Signal/noise ratio	50 dB (recording/playback)
Wow and flutter	0.35 % (DIN 45 511)

■ Speaker

Type	2-way type speaker system 5 cm (2") tweeter 13 cm (5-1/8") woofer
Maximum input power	100 W
Rated input power	50 W
Impedance	6 ohms
Dimensions	Width: 165 mm (6-1/2") Height: 261 mm (10-1/4") Depth: 230 mm (9-1/16")
Weight	2.6 kg (5.7 lbs.)/each

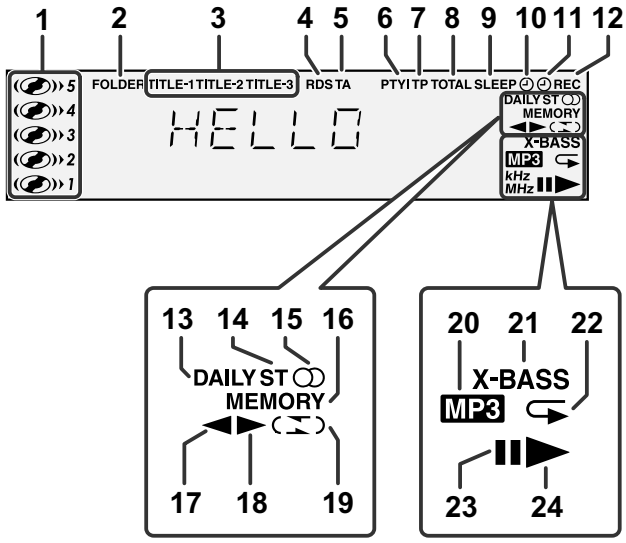
Specifications for this model are subject to change without prior notice.

[3] NAMES OF PARTS



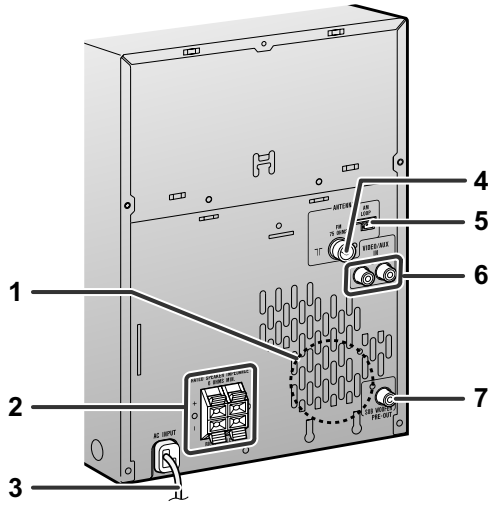
■ Front panel

1. Disc Trays
2. Timer Indicator
3. On/Stand-by Button
4. Clock/Timer Button
5. Disc Track Down or Fast Reverse, Tape Fast Wind, Tuner Preset Down, Time Down Button
6. Tape Reverse Play Button
7. Tape Reverse Mode Select Button
8. Cassette Compartment
9. Headphone Socket
10. Disc Tray Open/Close Button
11. Disc Number Select Buttons
12. Disc Direct Play Button
13. Illumination Light
14. Volume Control
15. Disc Track Up or Fast Forward, Tape Fast Wind, Tuner Preset Up, Time Up Button
16. Memory/Set Button
17. Equaliser Mode Select Button
18. Extra Bass/Demo Mode Button
19. Disc Play or Repeat, Tape Forward Play Button
20. Disc or Tape Stop Button
21. RDS ASPM (Auto Station Programme Memory) Button
22. RDS Programme Type/ Traffic Information Search Button
23. RDS Display Mode Select Button
24. CD Button
25. Tuner (Band) Button
26. Tape Button
27. Video/Auxiliary Button
28. Tape Record Pause Button
29. Tuning Up Button
30. Tuning Down Button



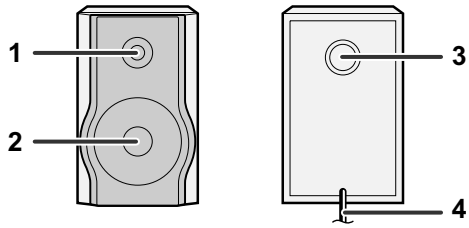
■ Display

1. Disc Number Indicators
2. MP3 Folder Indicator
3. MP3 Title Indicators
4. RDS Indicator
5. Traffic Announcement Indicator
6. Dynamic PTY Indicator
7. Traffic Programme Indicator
8. MP3 Total Indicator
9. Sleep Indicator
10. Timer Play Indicator
11. Timer Recording Indicator
12. Tape Record Indicator
13. Daily Timer Indicator
14. FM Stereo Mode Indicator
15. FM Stereo Receiving Indicator
16. Memory Indicator
17. Tape Reverse Play Indicator
18. Tape Forward Play Indicator
19. Tape Reverse Mode Indicator
20. MP3 Disc Indicator
21. Extra Bass Indicator
22. Disc Repeat Play Indicator
23. Disc Pause Indicator
24. Disc Play Indicator



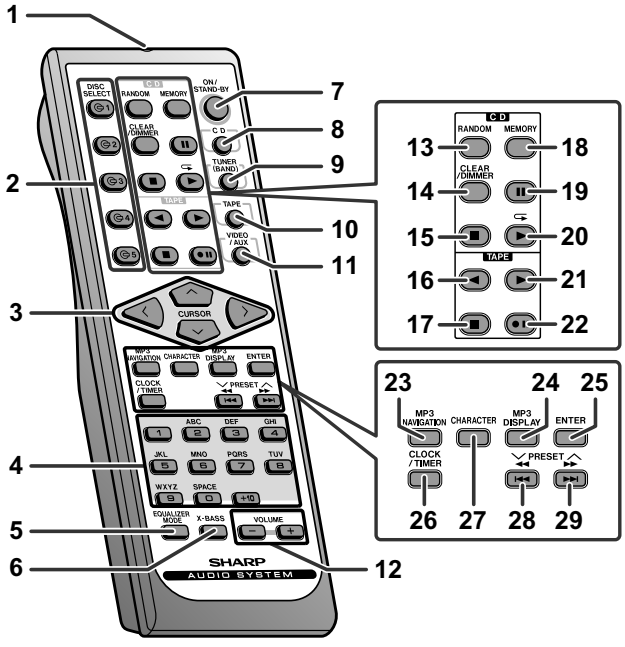
■ Rear panel

1. Cooling Fan
2. Speaker Terminals
3. AC Power Lead
4. FM 75 Ohms Aerial Socket
5. AM Loop Aerial Socket
6. Video/Auxiliary (Audio Signal) Input Sockets
7. Subwoofer Pre-output Socket



■ Speaker system

1. Tweeter
2. Woofer
3. Bass Reflex Duct
4. Speaker Wire



■ Remote control

1. Remote Control Transmitter
2. Disc Number Select Buttons
3. Cursor Buttons
4. Character Input/Disc Direct Search Buttons
5. Equaliser Mode Select Button
6. Extra Bass Button
7. On/Stand-by Button
8. CD Button
9. Tuner (Band) Button
10. Tape Button
11. Video/Auxiliary Button
12. Volume Up and Down Buttons
13. Disc Random Button
14. Disc Clear/Dimmer Button
15. Disc Stop Button
16. Tape Reverse Play Button
17. Tape Stop Button
18. Memory/Set Button
19. Disc Pause Button
20. Disc Play or Repeat Button
21. Tape Forward Play Button
22. Tape Record Pause Button
23. MP3 Disc Navigation Mode Select Button
24. MP3 Disc Display Button
25. Enter Button
26. Clock/Timer Button
27. Character Button
28. Disc Track Down or Fast Reverse, Tape Fast Wind, Tuner Preset Down, Time Down Button
29. Disc Track Up or Fast Forward, Tape Fast Wind, Tuner Preset Up, Time Up Button

CHAPTER 2. ADJUSTMENTS

[1] ADJUSTMENT

1. MECHANISM SECTION

• Driving Force Check

Torque Meter	Specified Value
Play: TW-2111	Over 80 g

• Torque Check

Torque Meter	Specified Value
Play: TW-2111	30 to 80 g.cm
Fast forward: TW-2231	70 to 180 g.cm
Rewind: TW-2231	70 to 180 g.cm

2. TUNER SECTION

fL: Low-range frequency

fH: High-range frequency

• AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
AM IF	450 kHz	1,620 kHz	T351	*1
AM Band Coverage	—	522 kHz	(fL): T306 1.1 ± 0.1 V	*2
AM Tracking	990 kHz	990 kHz	(fL): T303	*1

*1. Input: Antenna Output: TP302
*2. Input: Antenna Output: TP301

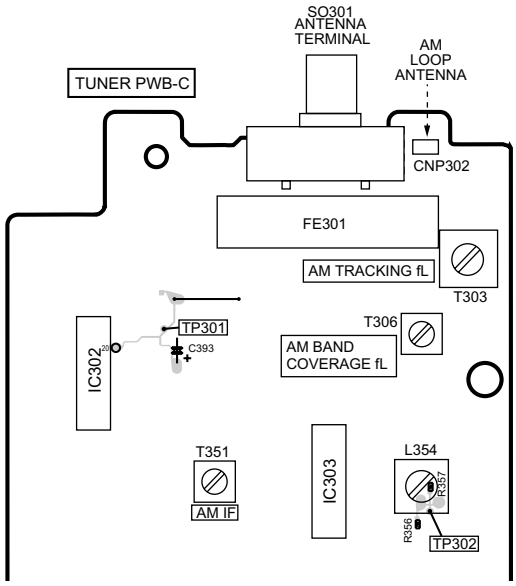


Figure 2 ADJUSTMENT POINTS

Notes:

1. Description of the "FM IF Adjustment" is not carried on this Manual. It is because the IF coil in the FM front end section has been best adjusted in the factory so that its further adjustment is not needed at the field. When replacing the FM front end assembly, no adjustment is needed either.
2. The parts in the FM front end section are prepared in a complete unit, so you can't obtain each part individually.

• Tape Speed

	Test Tape	Adjusting Point	Specified Value	Instrument Connection
Normal speed	MTT-111	Variable Resistor in motor.	3,000 ± 30 Hz	Speaker Terminal (Load resistance: 6 ohms)

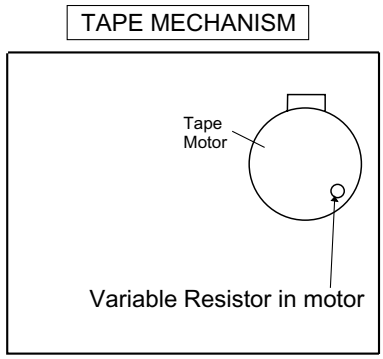


Figure 1

3. CD SECTION

• **Adjustment**

Since this CD system incorporates the following automatic adjustment functions, readjustment is not needed when replacing the pickup. Therefore, different PWBs and pickups can be combined freely.

Each time a disc is changed, these adjustments are performed automatically. Therefore, playback of each disc can be performed under optimum conditions.

Items adjusted automatically

1) Offset adjustment (The offset voltage between the head amplifier output and the VREF reference voltage is compensated inside the IC.)
   * Focus offset adjustment
   * Tracking offset adjustment
2) Tracking balance adjustment
3) Gain adjustment (The gain is compensated inside the IC so that the loop gain at the gain crossover frequency will be 0 dB.)
   * Focus gain adjustment
   * Tracking gain adjustment

4. CD ERROR CODE DESCRIPTION

Error	Explanation
01	When Pickup set inner position, inner switch cannot detect 'ON' level for 10 secs.
10*	CAM error. Can't detect CAM switch when CAM is moving.
11*	When it detect cam operation error during initialize process.
20*	TRAY error. Can't detect TRAY switch when TRAY is moving.
21*	When it detect TRAY operation error during initialize process.
31	When it change to CD function, DSP cannot read initial data.

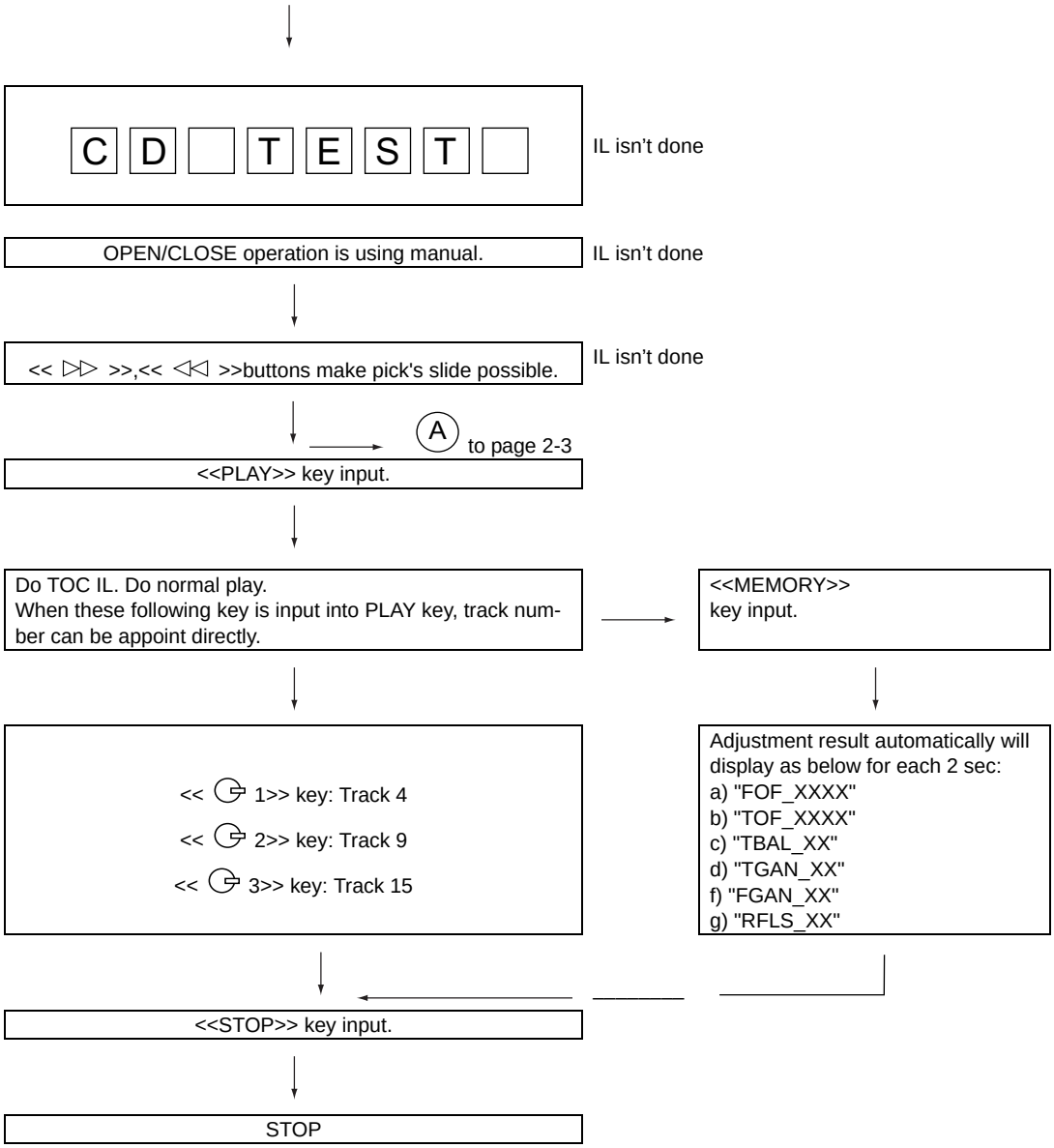
* 'CHECKING'

If Error is detected, 'CHECKING' will be displayed instead of 'ER-CD**'. 'ER-CD**' display will only be displayed when error had been detected for the 5th times.

[2] TEST MODE

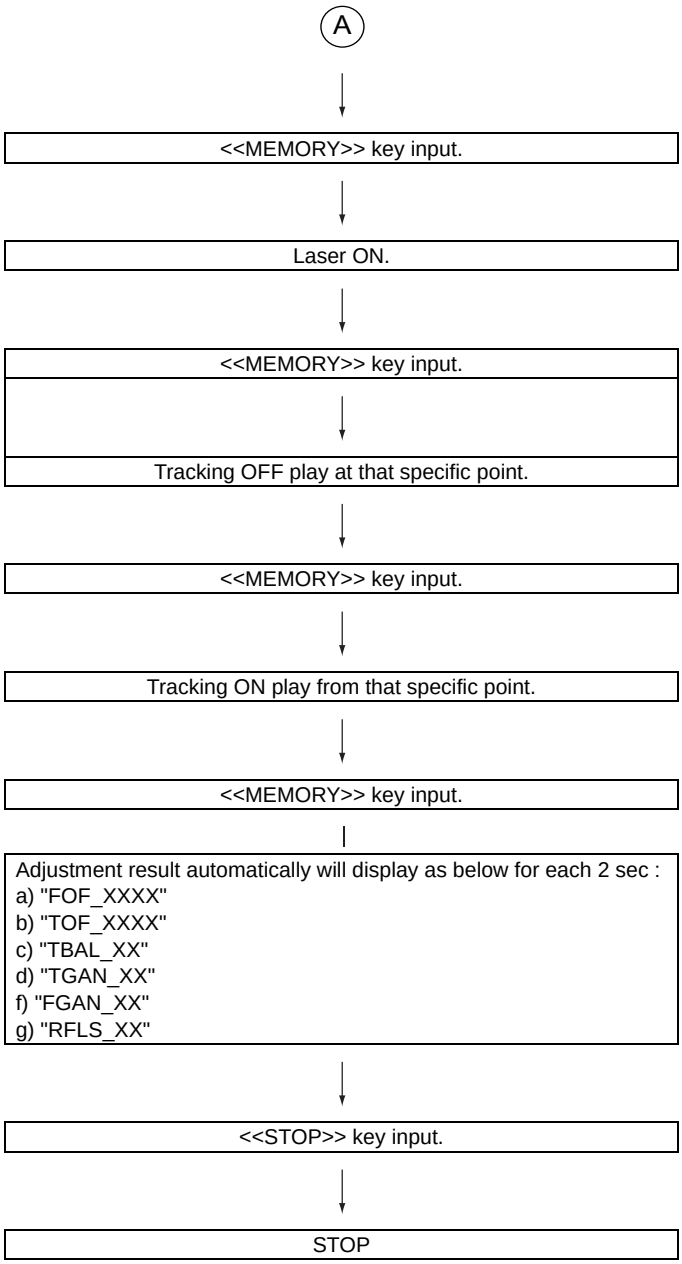
• Setting the test mode

During stand-by mode, press ON/STAND-BY button while pressing down the ■ button and X-BASS/DEMO button. then, press the CD button to enter the test mode.



explanation:

a) Focus off set = "FOF_XXXX"
b)Tracking off set = "TOF_XXXX"
c)Tracking balance = "TBAL_XX"
d)Tracking Gain = "TGAN_XX"
f) Focus Gain = "FGAN_XX"
g) RF level shift = "RFLS_XX"
VOL — Last memory
P.GEQ — FLAT
X-BASS — OFF
To cancel : Power OFF



Sliding the PICKUP with<< ▷▷ >>, << ◁◁ >> button must only be in STOP mode.

explanation:

a) Focus off set = "FOF_XXXX"
b)Tracking off set = "TOF_XXXX"
c)Tracking balance = "TBAL_XX"
d)Tracking Gain = "TGAN_XX"
f) Focus Gain = "FGAN_XX"
g) RF level shift = "RFLS_XX"
VOL — Last memory
P.GEQ — FLAT
X-BASS — OFF
To cancel : Power OFF

[3] Standard Specification of Stereo System Error Message Display Contents

Error Contents		DISPLAY	Notes
CD	Pickup Mechanism Error.	'ER-CD01'	PU-IN SW Detection NG.
	CD Changer Mechanism Error.	'ER-CD**' (*)	10: CAM SW Detection NG during normal operation 11: CAM SW Detection NG during initialize process 20:TRAY SW Detection NG during normal operation 21:TRAY SW Detection NG during initialize process
	CD DSP Communication Error.	'ER-CD31'	DSP COMMUNICATION ERROR.
	Focus Not Match/IL Time Over.	'NO DISC'	
TUNER	PLL Unlock.	FM 87.50 MHz	PLL Unlock.

(*) CHECKING:

If CD changer mechanism error is detected, 'CHECKING' will be display instead of 'ER-CD**'. 'ER-CD**' display will only be display when error had been detected for the 5 th times.

Speaker abnormal detection and +B PROTECTION display

In case speaker abnormal detection or +B PROTECTION had occurred, it can be check by pressing 'POWER', ' ■ ' and 'X-BASS' button. Micro-Computer version number will displayed as "um******".

Press ‘VIDEO/AUX’ button during version number display and then press ‘POWER’, ‘MEMORY/SET’ and ‘VIDEO/AUX’ button. Display will show "S** B**". S is referring to speaker abnormal detection and B is referring to +B PROTECTION. ** is in hex valve.

+B PROTECTION is condition when irregular process occur on power supply line.

BEFORE TRANSPORTING THE UNIT

The following process need to be taken after set tapering/parts replacement.

1. Press the ON/STAND-BY button to enter stand-by mode.
2. While pressing down the ■ button and the X-BASS/DEMO button, press the ON/STAND-BY button. The Micro Computer version number will be displayed as "um******".
3. Press OPEN/CLOSE button until "WAIT"--> "FINISHED" appears.
4. Unplug the AC cord and the unit is ready for transporting.

CHAPTER 3. MECHANICAL DESCRIPTION

[1] REMOVING AND REINSTALLING THE MAIN PARTS

1. TAPE MECHANISM SECTION

Perform steps 1 to 9 of the disassembly method to remove the tape mechanism.(see page 3-3,3-4)

1.1. How to remove the Record/Playback Head (See Fig. 1)

1. When you remove the screws (A1) x 2 pcs and (A2) x 1 pc., the record/playback head can be removed.

1.2. How to remove the Pinch Roller (See Fig. 2)

1. Carefully bend the pinch roller pawl in the direction of the arrow <**A**>, and remove the pinch roller (B1) x 1 pc., in the direction of the arrow <**B**>.

NOTE: When installing the pinch roller, pay attention to the spring mounting position.

1.3. How to remove the Belt (See Fig. 3)

1. Remove the main belt (C1) x 1 pc., from the motor side.
2. Remove the FF/REW belt (C2) x 1 pc.

1.4. How to remove the Motor (See Fig. 4)

1. Remove the screws (D1) x 2 pcs., to remove the motor.

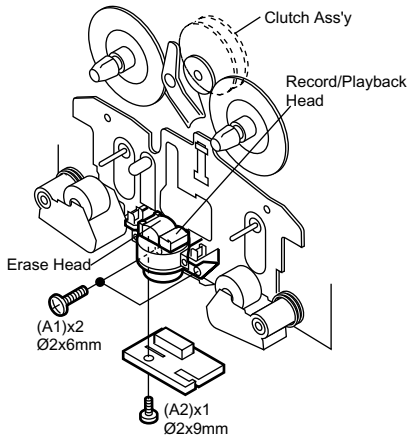


Figure 1

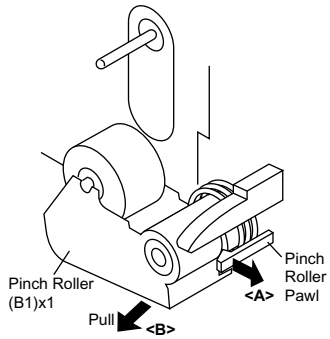


Figure 2

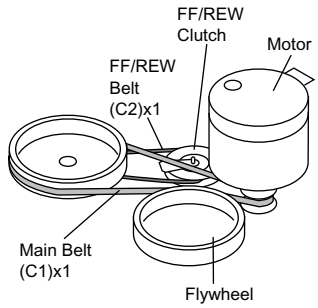


Figure 3

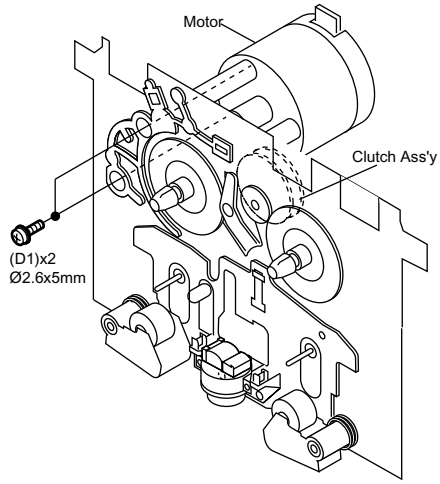


Figure 4

2. CD MECHANISM SECTION

Perform steps 1 to 4 and 11 to 12 of the disassembly method to remove the CD mechanism.(see page 3-3,3-4)

2.1. How to remove the Optical Pickup (See Fig. 1)

1. Remove the screws (A1) x 2 pcs and shaft (A2) x 1 pc.
2. Remove the stop washer (A3) x 1 pc and gear (A4) x 1 pc.
3. Remove the optical pickup.

NOTE: After pulling out the optical pickup connector, wrap the tip of it with conductive aluminium foil or the like to protect the optical pickup from the static electricity.

2.2. How to remove CD Disc (See Fig. 2~5)

1. When CD is at play position, Rotate reduction gear C clock-wise as shown in Figure 2 Until disk tray is at stalk 'STOCK' position, then rotate the gear further to eject the disk tray (Figure 6) so that CD can be removed from the tray.
2. In another case, if CD mechanism is at tray No. 1 play position and to remove CD located in tray No. 3, the procedure is as follows:

   If the gear up down board is located at tray No. 1 position, then rotate Reduction gear C clock-wise until Disc tray is at stalk 'STOCK' position. Rotate reduction gear D (Figure 3) to move the CD mechanism to tray No. 3 position. This is confirmed by checking the gear up down board position Base on the marking as indicated on the main chassis as shown in Figure 4.

- Usually changer is covered with top plate. As for reference purpose. We exclude the top plate for easy viewing. (Figure 5,6)

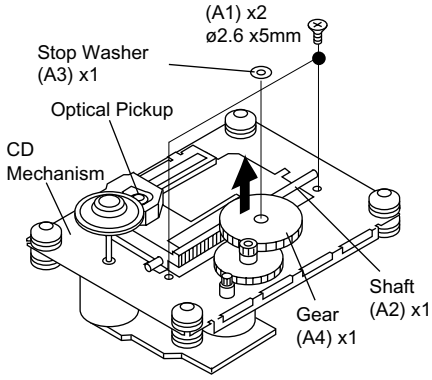


Figure 1

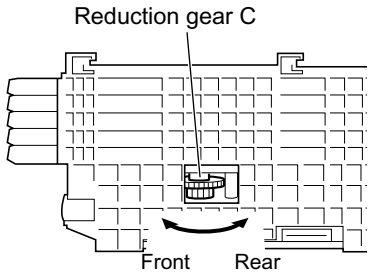


Figure 2

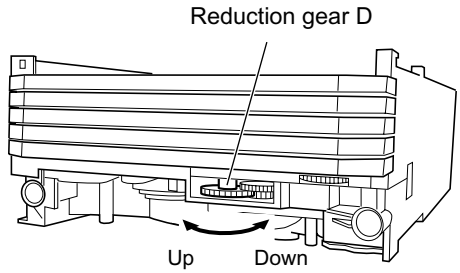


Figure 3

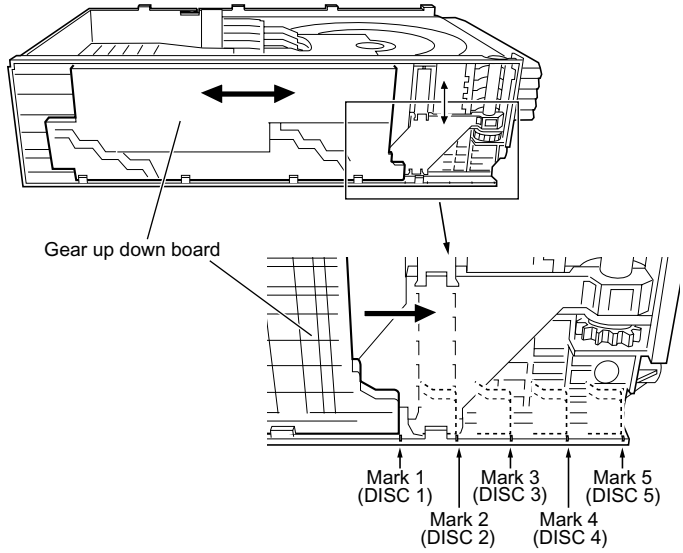
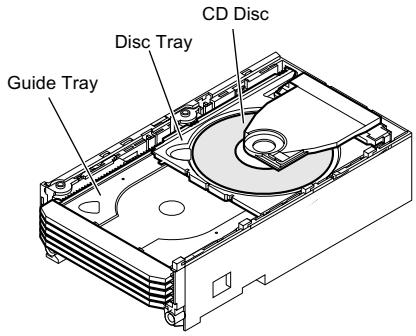
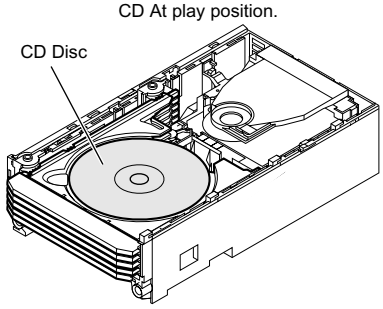


Figure 4



CD At play position.



CD At stalk 'STOCK' position.

Figure 5

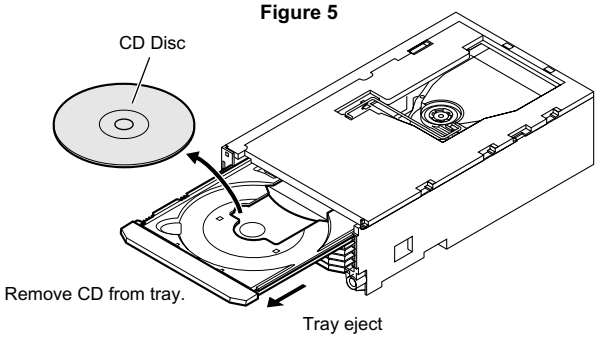


Figure 6

[2] DISASSEMBLY

Caution on Disassembly
Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:
1) Take cassette tape and compact disc out of the unit.
2) Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3) Take off nylon bands or wire holders where they need to be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4) Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

STEP	REMOVAL	PROCEDURE	FIGURE
1	Cabinet	1. Screw.....(A1) x11	1
2	Rear Panel Top	1. Screw.....(B1) x2	1
3	CD Changer unit	1. Hook.....(C1) x2 2. Socket.....(C2) x1 3. Flat Cable.....(C3) x1	2
4	Rear Panel Bottom	1. Screw.....(D1) x8	2
5	Front Panel	1. Screw.....(E1) x3 2. Flat Cable.....(E2) x2 3. Socket.....(E3) x1 4. Hook.....(E4) x2	2,3 3
6	Tuner PWB	1. Screw.....(F1) x1 2. Socket.....(F2) x1	2 3
7	Main PWB	1. Screw.....(G1) x2 2. Socket.....(G2) x4	2,4 4
8	Power PWB	1. Screw.....(H1) x4	4
9	Terminal PWB	1. Screw.....(J1) x1	4
10	Display PWB	1. Knob.....(K1) x1 2. Screw.....(K2) x 8 3. Flat Cable.....(K3) x 1	5
11	Tape Mechanism	1. Screw.....(L1) x 4	5
12	Headphones PWB	1. Screw.....(M1) x 1	5
11	CD MP3 PWB (Note 1)	1. Screw.....(N1) x2 2. Flat Cable.....(N2) x 2 3. Socket.....(N3) x1	6
12	CD Mechanism	1. Screw.....(P1) x4 2. Screw.....(P2) x4	6 7

Note 1:

After removing the connector for the optical pickup from the connector, wrap the conductive aluminium foil around the front end of the connector so as to protect the optical pickup from electrostatic damage.

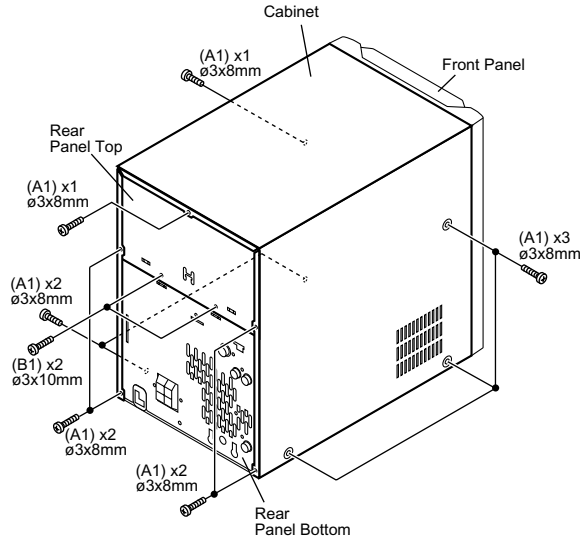


Figure 1

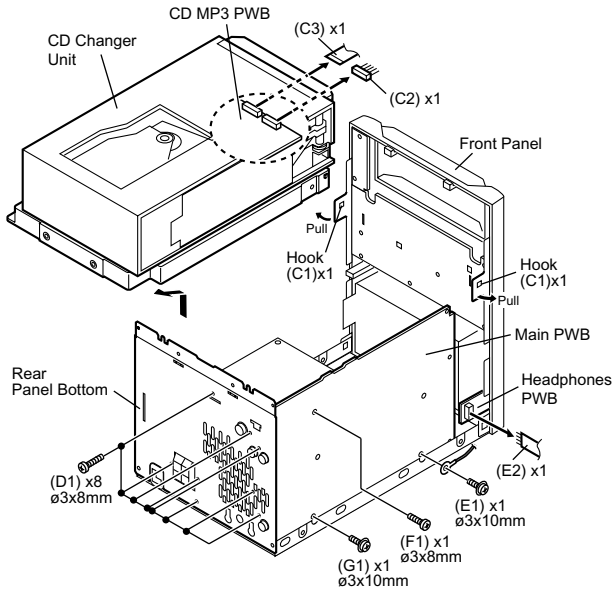


Figure 2

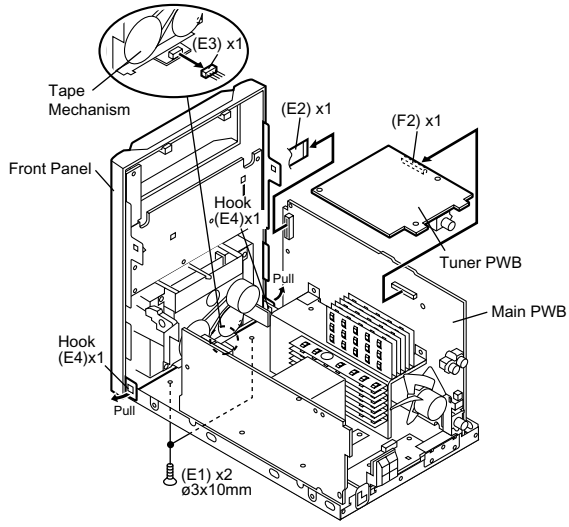


Figure 3

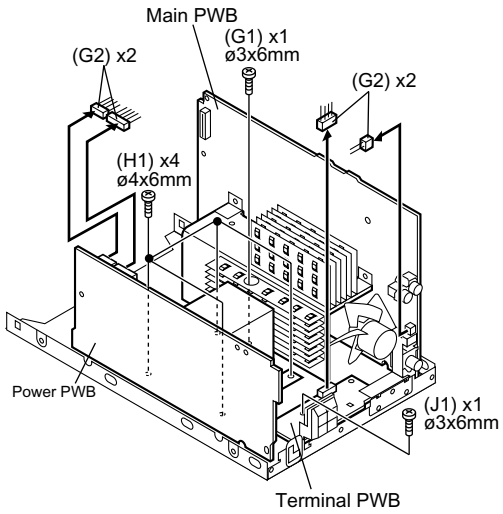


Figure 4

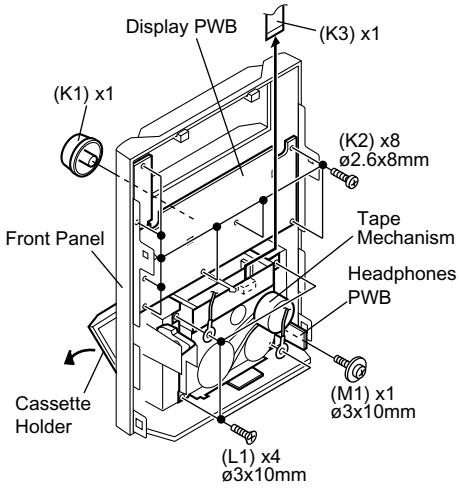


Figure 5

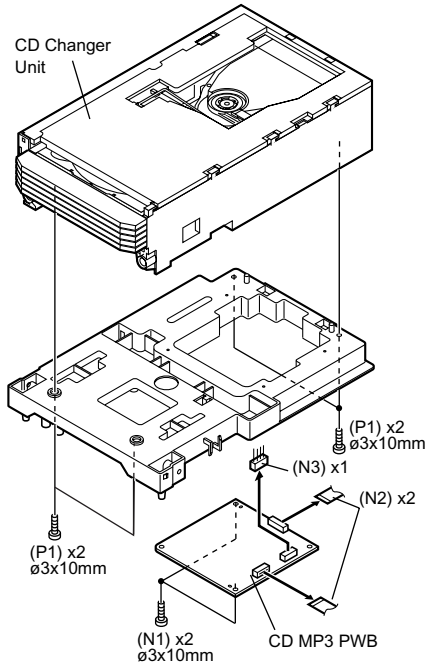


Figure 6

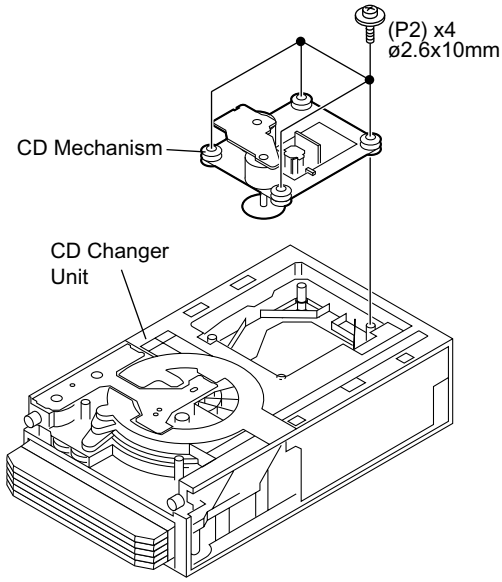


Figure 7

STEP	REMOVAL	PROCEDURE	FIGURE
1	Woofer/ Tweeter	1. Net Frame(A1) x1 2. Catching Holder(A2) x4 3. Screw(A3) x4 4. Front Panel(A4) x1 5. Screw(A5) x6	8

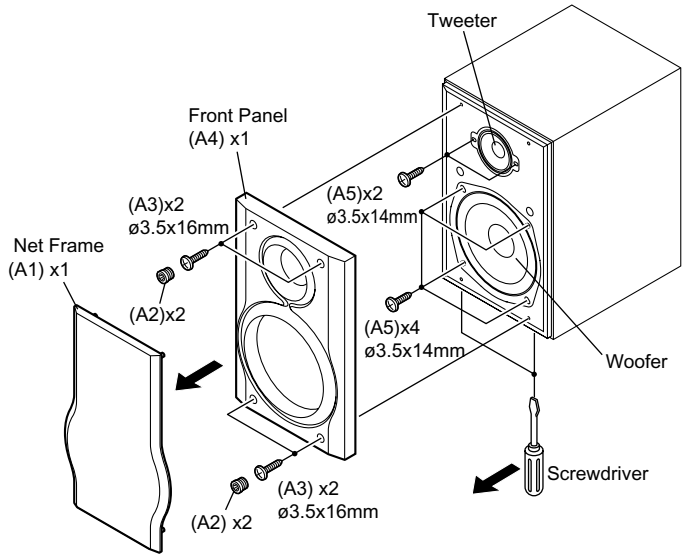


Figure 8

CHAPTER 4. DIAGRAMS

[1] BLOCK DIAGRAM

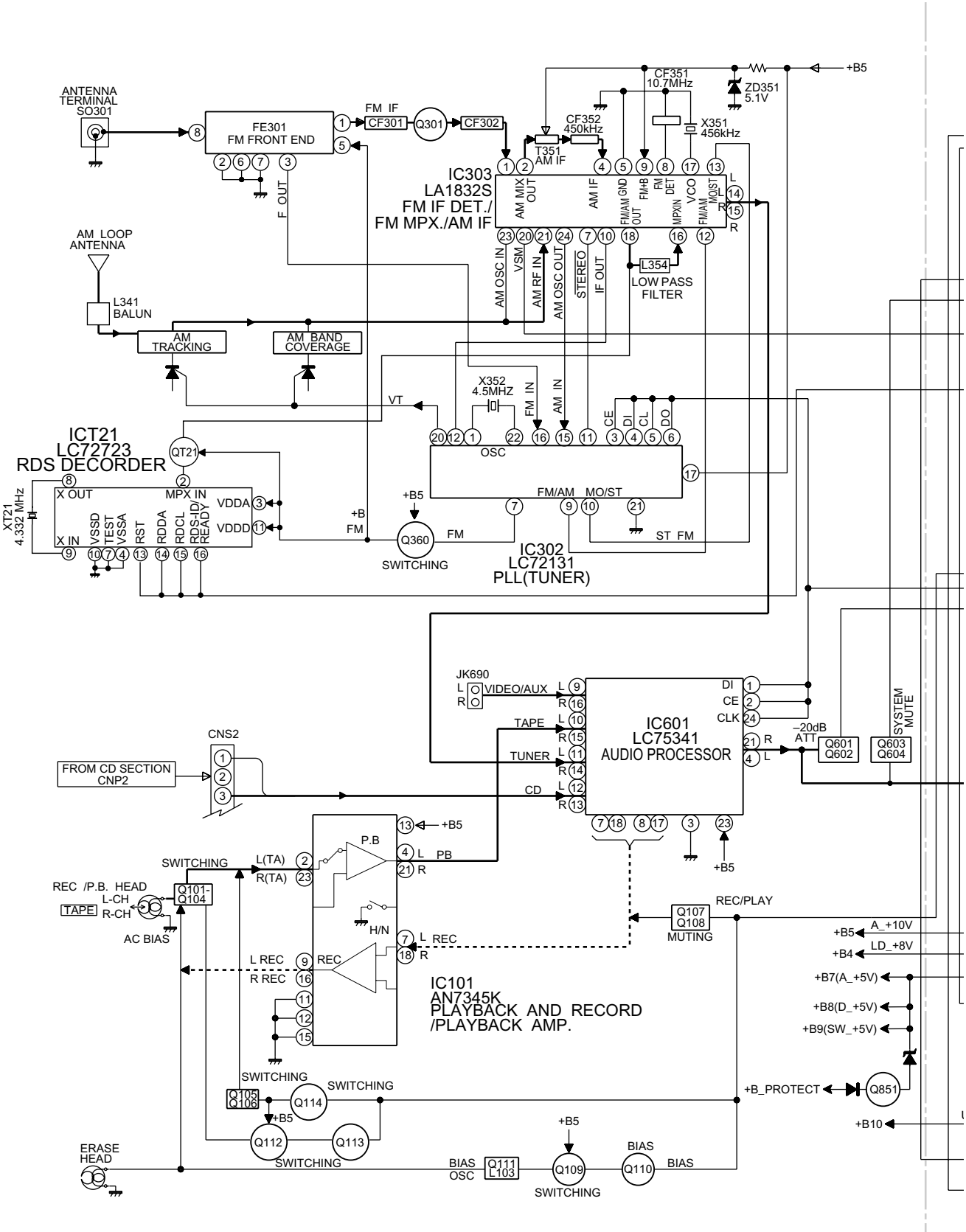


Figure 4-1 BLOCK DIAGRAM (1/4)

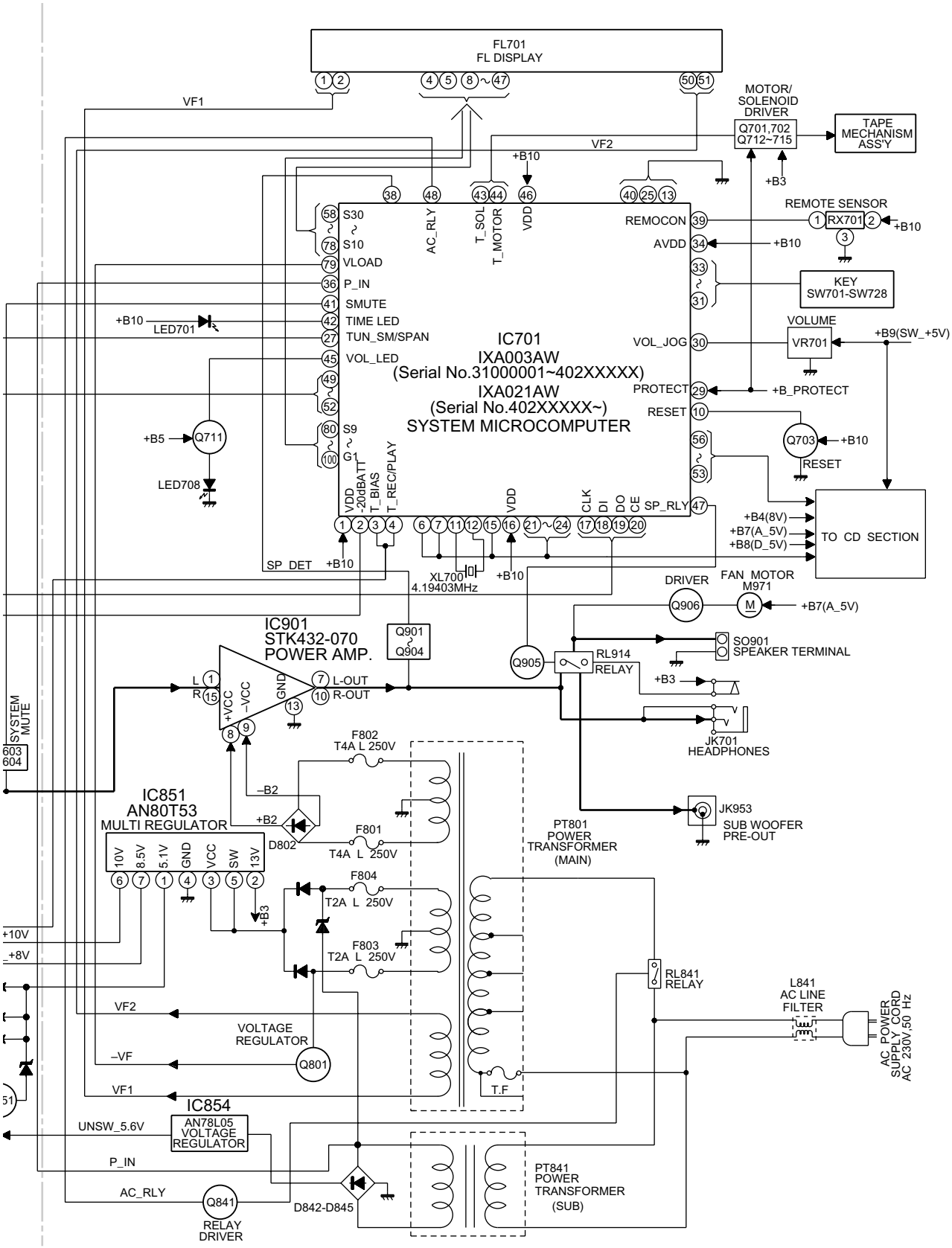


Figure 4-2 BLOCK DIAGRAM (2/4)

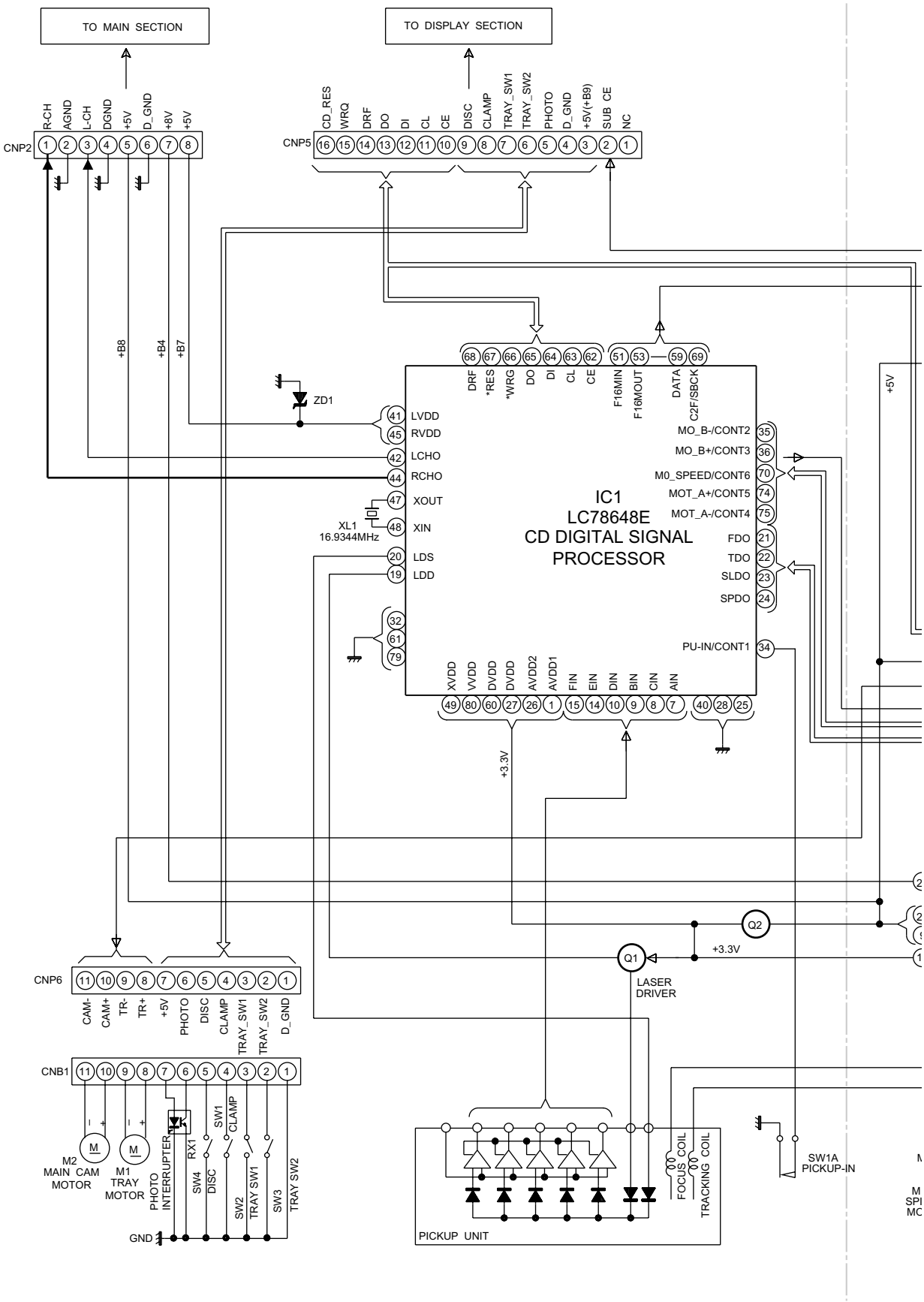


Figure 4-3 BLOCK DIAGRAM (3/4)

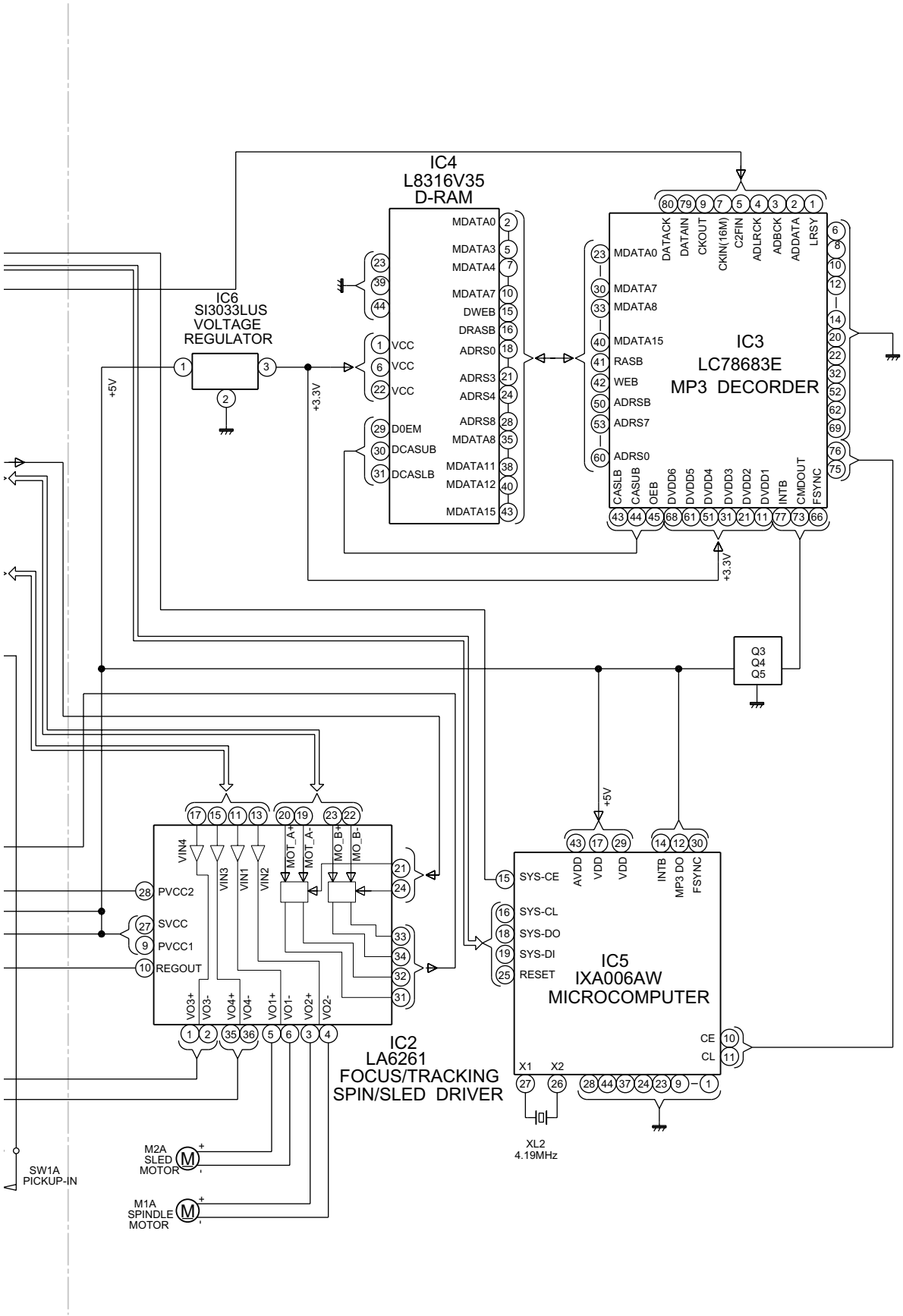


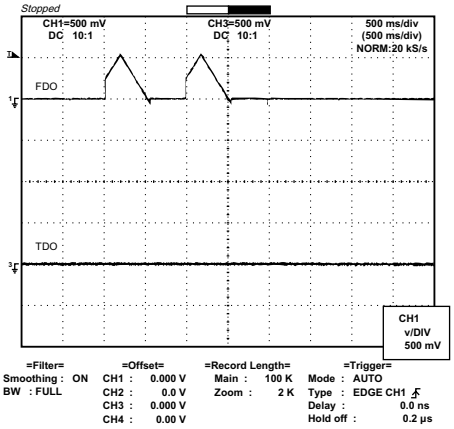
Figure 4-4 BLOCK DIAGRAM (4/4)

CHAPTER 5. CIRCUIT DESCRIPTION

[1] WAVEFORMS OF CD CIRCUIT

1 IC1 (21)

2 IC1 (22)

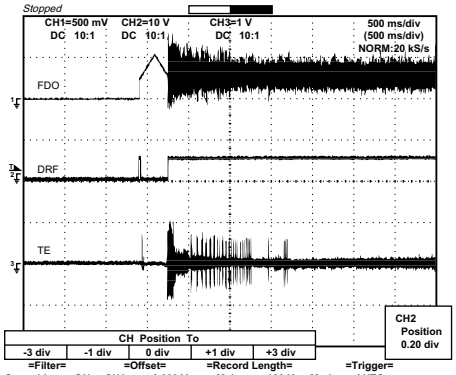


=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.000 V	Main :	100 K	Mode :	AUTO
BW : FULL	CH2 :	0.0 V	Zoom :	2 K	Type :	EDGE CH1
	CH3 :	0.000 V			Delay :	0.0 ns
	CH4 :	0.00 V			Hold off :	0.2 µs

1 IC1 (21)

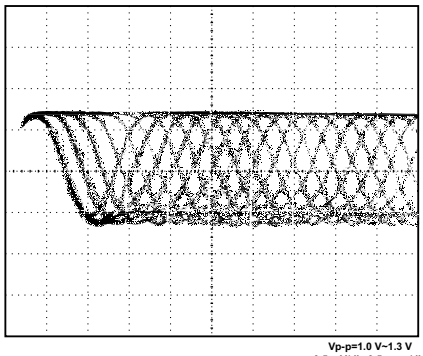
3 IC1 (68)

4 IC1 (17)



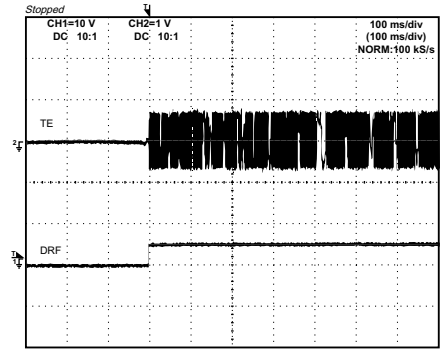
=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.000 V	Main :	100 K	Mode :	AUTO
BW : FULL	CH2 :	0.0 V	Zoom :	2 K	Type :	EDGE CH1
	CH3 :	0.00 V			Delay :	0.0 ns
	CH4 :	0.00 V			Hold off :	0.2 µs

5 IC1 (4)



4 IC1 (17)

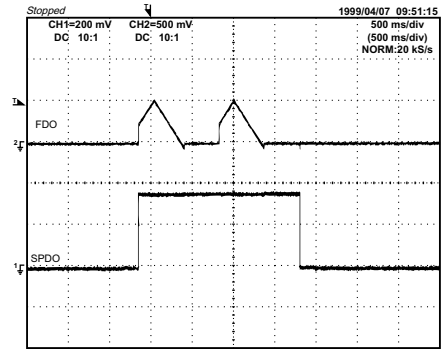
3 IC1 (68)



=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.0 V	Main :	100 K	Mode :	NORMAL
BW : FULL	CH2 :	0.00 V	Zoom :	2 K	Type :	EDGE CH1
	CH3 :	0.00 V			Delay :	2.924 ms
	CH4 :	0.00 V			Hold off :	0.2 µs

1 IC1 (21)

6 IC1 (24)

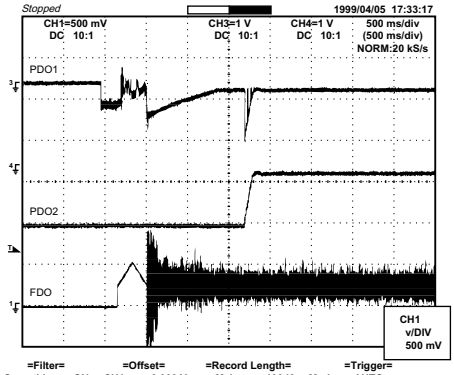


=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.000 V	Main :	100 K	Mode :	NORMAL
BW : FULL	CH2 :	0.000 V	Zoom :	2 K	Type :	EDGE CH2
	CH3 :	0.00 V			Delay :	2.924 ms
	CH4 :	0.00 V			Hold off :	0.2 µs

7 IC1 (76)

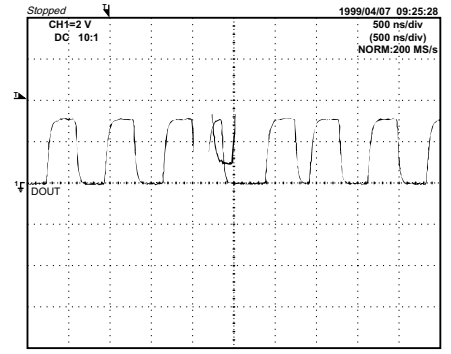
8 IC1 (77)

1 IC1 (21)



=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.000 V	Main :	100 K	Mode :	AUTO
BW : FULL	CH2 :	0.0 V	Zoom :	2 K	Type :	EDGE CH2
	CH3 :	0.00 V			Delay :	0.0 ns
	CH4 :	0.00 V			Hold off :	0.2 µs

9 IC1 (39)

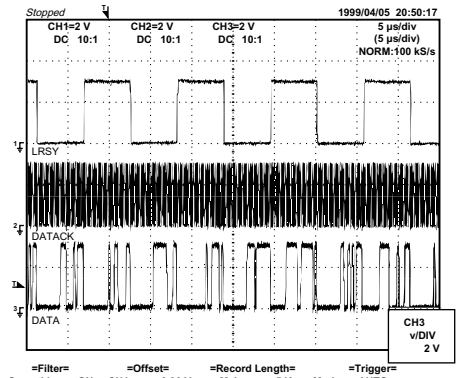


=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.00 V	Main :	1 K	Mode :	NORMAL
BW : FULL	CH2 :	0.00 V	Zoom :	100	Type :	EDGE CH1
	CH3 :	0.00 V			Delay :	2.887 ms
	CH4 :	0.00 V			Hold off :	0.2 µs

10 IC1 (57)

11 IC1 (58)

12 IC1 (59)



=Filter=	=Offset=		=Record Length=		=Trigger=	
Smoothing : ON	CH1 :	0.00 V	Main :	5 K	Mode :	AUTO
BW : FULL	CH2 :	0.00 V	Zoom :	100	Type :	EDGE CH3
	CH3 :	0.00 V			Delay :	0.0 ns
	CH4 :	0.00 V			Hold off :	0.2 µs

[2] VOLTAGE

IC1	
PIN NO.	VOLTAGE
1	3.20 V
2	1.61V
3	1.61 V
4	1.60 V
5	1.61 V
6	3.06 V
7	1.65 V
8	1.65 V
9	1.65 V
10	1.65 V
11	1.48 V
12	0 V
13	1.65 V
14	0 V
15	1.65 V
16	1.47 V
17	1.48 V
18	0 V
19	0 V
20	0 V
21	1.60 V
22	0 V
23	1.61 V
24	1.61 V
25	0 V
26	0 V
27	3.20 V
28	0 V
29	3.20 V
30	0 V
31	0 V
32	1.59 V
33	1.60 V
34	3.20 V
35	0 V
36	0 V
37	0 V
38	0 V
39	0 V
40	0 V
41	3.61 V
42	0 V
43	0 V
44	1.80 V
45	3.80 V
46	0 V
47	1.45 V
48	1.49 V
49	3.19 V
50	3.79 V
51	0 V
52	0 V
53	0 V
54	0 V
55	0 V
56	0 V
57	0 V
58	0 V
59	0 V
60	3.20 V
61	0 V
62	0 V
63	0.53 V
64	0 V
65	5.18 V
66	5.18 V
67	4.68 V
68	0 V
69	0 V
70	0 V
71	0 V
72	0 V
73	0 V
74	4.86 V
75	4.86 V
76	3.01 V
77	0 V
78	1.12 V
79	0 V
80	3.20 V

IC6	
PIN NO.	VOLTAGE
1	5.07 V
2	0 V
3	3.28 V

IC3	
PIN NO.	VOLTAGE
1	1.64 V
2	0 V
3	3.26 V
4	0 V
5	0 V
6	0 V
7	1.41 V
8	0 V
9	1.51 V
10	0 V
11	3.27 V
12	0 V
13	0 V
14	0 V
15	0 V
16	3.15 V
17	1.56 V
18	1.25 V
19	1.25 V
20	0 V
21	3.28 V
22	0 V
23	0 V
24	0 V
25	0 V
26	0 V
27	0 V
28	0 V
29	0 V
30	0 V
31	3.27 V
32	0 V
33	0 V
34	0 V
35	0 V
36	0 V
37	0 V
38	0 V
39	0 V
40	0 V
41	3.26 V
42	3.26 V
43	3.26 V
44	3.26 V
45	3.26 V
46	0 V
47	0 V
48	0 V
49	0 V
50	0 V
51	3.26 V
52	0 V
53	3.26 V
54	0 V
55	0 V
56	0 V
57	0 V
58	0 V
59	0 V
60	0 V
61	3.27 V
62	0 V
63	1.64 V
64	1.64 V
65	1.64 V
66	0 V
67	0 V
68	3.26 V
69	0 V
70	1.64 V
71	0 V
72	3.26 V
73	1.97 V
74	0 V
75	3.44 V
76	0 V
77	3.22 V
78	3.43 V
79	0 V
80	1.63 V

IC4	
PIN NO.	VOLTAGE
1	3.28 V
2	1.00 V
3	1.00 V
4	0 V
5	0.90 V
6	2.28 V
7	1.37 V
8	1.37 V
9	1.38 V
10	1.38 V
11	0 V
12	0 V
13	3.26 V
14	3.26 V
15	0.40 V
16	3.26 V
17	0 V
18	0 V
19	0 V
20	3.28 V
21	0 V
22	0 V
23	0 V
24	0 V
25	3.27 V
26	0 V
27	3.26 V
28	3.26 V
29	3.26 V
30	0 V
31	1.60 V
32	1.64 V
33	0 V
34	0 V
35	0 V
36	1.64 V
37	1.64 V
38	1.64 V
39	1.64 V
40	0 V

IC5	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	0 V
5	0 V
6	0 V
7	0 V
8	0 V
9	0 V
10	0 V
11	5.00 V
12	0 V
13	0 V
14	0 V
15	0.48 V
16	4.68 V
17	5.06 V
18	5.05 V
19	0 V
20	0 V
21	0 V
22	0 V
23	0 V
24	0 V
25	4.72 V
26	3.03 V
27	2.55 V
28	0 V
29	5.06 V
30	5.07 V
31	0 V
32	0.77 V
33	0 V
34	0.50 V
35	5.01 V
36	0 V
37	0 V
38	0 V
39	0 V
40	0 V
41	0 V
42	0 V
43	5.05 V
44	0 V

IC2	
PIN NO.	VOLTAGE
1	2.10 V
2	2.20 V
3	2.10 V
4	2.20 V
5	2.10 V
6	2.20 V
7	0 V
8	4.37 V
9	5.02 V
10	3.20 V
11	1.62 V
12	1.65 V
13	1.62 V
14	1.65 V
15	1.62 V
16	0 V
17	1.62 V
18	1.64 V
19	4.71 V
20	4.71 V
21	3.92 V
22	3.11 V
23	3.10 V
24	2.50 V
25	1.65 V
26	0 V
27	5.02 V
28	8.68 V
29	5.02 V
30	0.69 V
31	0.71 V
32	0 V
33	0 V
34	0 V
35	2.11 V
36	2.20 V

IC101	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0.57 V
4	1.98 V
5	0.33 V
6	0 V
7	0 V
8	0.58 V
9	3.38 V
10	3.30 V
11	0 V
12	0 V
13	6.80 V
14	4.09 V
15	0 V
16	3.33 V
17	0.56 V
18	0 V
19	0 V
20	0.90 V
21	1.98 V
22	0.57 V
23	0 V
24	0 V

ICT21	
PIN NO.	VOLTAGE
1	2.57 V
2	2.56 V
3	5.15 V
4	0 V
5	2.66 V
6	2.55 V
7	0 V
8	2.73 V
9	2.73 V
10	0 V
11	5.16 V
12	5.16 V
13	0 V
14	0 V
15	0 V
16	5.15 V

IC302	
PIN NO.	VOLTAGE
1	2.57 V
2	0 V
3	0 V
4	0 V
5	0 V
6	5.22 V
7	10.18 V
8	4.75 V
9	0 V
10	0 V
11	5.23 V
12	0 V
13	5.23 V
14	0 V
15	0 V
16	2.59 V
17	5.24 V
18	0 V
19	0 V
20	10.18 V
21	0 V
22	2.57 V

IC303	
PIN NO.	VOLTAGE
1	2.10 V
2	6.10 V
3	2.10 V
4	2.10 V
5	0 V
6	0 V
7	5.10 V
8	3.00 V
9	5.10 V
10	0 V
11	3.90 V
12	3.90 V
13	2.20 V
14	1.20 V
15	1.30 V
16	2.10 V
17	0 V
18	2.20 V
19	2.08 V
20	1.29 V
21	2.40 V
22	2.40 V
23	5.10 V
24	3.65 V

IC601	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	5.04 V
5	5.10 V
6	5.01 V
7	5.00 V
8	5.03 V
9	5.01 V
10	5.01 V
11	5.01 V
12	5.01 V
13	5.02 V
14	5.01 V
15	5.00 V
16	5.01 V
17	5.03 V
18	5.01 V
19	5.01 V
20	5.00 V
21	5.03 V
22	5.03 V
23	10.04 V
24	0 V

IC901	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0 V
4	36.70 V
5	-35.40 V
6	0 V
7	0 V
8	37.90 V
9	0 V
10	0 V
11	0 V
12	-36.60 V
13	0 V
14	0 V
15	0 V

IC701			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	4.72 V	51	0.80 V
2	4.62 V	52	0 V
3	0 V	53	5.03 V
4	4.68 V	54	4.98 V
5	4.70 V	55	5.00 V
6	4.72 V	56	5.00 V
7	0.31 V	57	-29.00 V
8	0 V	58	4.68 V
9	0 V	59	0 V
10	13.20 V	60	0 V
11	2.29 V	61	0 V
12	2.02 V	62	-0.20 V
13	0 V	63	0 V
14	4.60 V	64	0 V
15	0 V	65	0 V
16	4.70 V	66	0 V
17	0 V	67	0 V
18	3.00 V	68	0 V
19	5.06 V	69	-29.90 V
20	0 V	70	-29.90 V
21	0 V	71	-29.90 V
22	4.60 V	72	-26.00 V
23	0 V	73	-29.00 V
24	2.30 V	74	-21.00 V
25	0 V	75	-24.00 V
26	4.86 V	76	-26.00 V
27	0 V	77	-21.00 V
28	4.85 V	78	-21.00 V
29	48.00 V	79	-29.00 V
30	5.01 V	80	-26.00 V
31	4.90 V	81	-16.80 V
32	4.90 V	82	-25.00 V
33	4.90 V	83	-19.00 V
34	4.68 V	84	-27.06 V
35	4.90 V	85	-21.00 V
36	0 V	86	-24.00 V
37	2.10 V	87	-21.00 V
38	4.96 V	88	19.00 V
39	4.87 V	89	-27.00 V
40	0 V	90	-27.00 V
41	1.98 V	91	-25.00 V
42	3.70 V	92	-26.00 V
43	12.90 V	93	-26.00 V
44	12.90 V	94	-26.00 V
45	0 V	95	-26.00 V
46	4.70 V	96	-26.00 V
47	4.58 V	97	-26.00 V
48	4.60 V	98	-26.00 V
49	0 V	99	-26.00 V
50	0 V	100	-26.00 V

IC851	
PIN NO.	VOLTAGE
1	5.11 V
2	12.96 V
3	20.43 V
4	0 V
5	19.56 V
6	10.06 V
7	8.52 V

IC854	
PIN NO.	VOLTAGE
1	5.66 V
2	0.61 V
3	9.33 V

Q602	
PIN NO.	VOLTAGE
E	0.3 mV
C	0.2 mV
B	0.7 V

Q603	
PIN NO.	VOLTAGE
E	0.4 mV
C	0.2 mV
B	0.7 mV

Q604	
PIN NO.	VOLTAGE
E	0.4 mV
C	0.1 mV
B	0.7 V

Q711	
PIN NO.	VOLTAGE
1	10.01 V
2	9.7 V
3	207.2 mV

Q712	
PIN NO.	VOLTAGE
E	-392.1 mV
C	4.9 V
B	-392.4 mV

Q713	
PIN NO.	VOLTAGE
E	12.9 V
C	362.5 mV
B	12.9 V

Q841	
PIN NO.	VOLTAGE
E	24.1 mV
C	-1350.0 mV
B	0.8 V

Q901	
PIN NO.	VOLTAGE
E	-0.18 mV
C	-0.18 mV
B	0.5 V

Q902	
PIN NO.	VOLTAGE
E	0.14 mV
C	0.5 V
B	0.16 mV

Q906	
PIN NO.	VOLTAGE
E	-29.17 V
C	-29.77 V
B	-42.4 V

QT21	
PIN NO.	VOLTAGE
E	0.6 mV
C	0.5 V
B	0.8 V

Q1	
PIN NO.	VOLTAGE
E	3.2 V
C	94.3 mV
B	3.2 V

Q2	
PIN NO.	VOLTAGE
E	4.9 V
C	3.2 V
B	4.2 V

Q3	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0.67 V

Q4	
PIN NO.	VOLTAGE
1	0 V
2	0 V
3	0.67 V

Q5	
PIN NO.	VOLTAGE
1	0 V
2	4.98 V
3	0 V

Q110	
PIN NO.	VOLTAGE
1	-0.0 mV
2	9.9 V
3	15.1 V

Q301	
PIN NO.	VOLTAGE
E	-0.0 mV
C	0.2 mV
B	0.2 mV

Q360	
PIN NO.	VOLTAGE
E	10.01 V
C	0.4 mV
B	10.01 mV

Q601	
PIN NO.	VOLTAGE
E	0.3 mV
C	0.2 mV
B	0.3 V

Q701	
PIN NO.	VOLTAGE
E	12.9 V
C	0.8 mV
B	12.9 V

Q702	
PIN NO.	VOLTAGE
E	12.9 V
C	10.0 mV
B	15.9 V

Q703	
PIN NO.	VOLTAGE
1	0.9 mV
2	4.5 V
3	0.9 mV

Q714	
PIN NO.	VOLTAGE
E	9.8 mV
C	4.5 V
B	9.9 mV

Q715	
PIN NO.	VOLTAGE
E	12.9 V
C	9.8 mV
B	12.9 V

Q719	
PIN NO.	VOLTAGE
1	9.9 mV
2	5.10 V
3	9.8 mV

Q903	
PIN NO.	VOLTAGE
E	0.7 mV
C	0.5 V
B	-0.10 mV

Q904	
PIN NO.	VOLTAGE
E	0.6 mV
C	0.5 V
B	-0.9 mV

—**MEMO**—

CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

[1] NOTES ON SCHEMATIC DIAGRAM

- Resistor:

  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.

- Capacitor:

  To indicate the unit of capacitor, a symbol P is used: this symbol P means pico-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.

  (CH), (TH), (RH), (UJ): Temperature compensation

  (ML): Mylar type

  (P.P.): Polypropylene type

- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.

- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.

1. In the tuner section,

   indicates AM

   indicates FM stereo

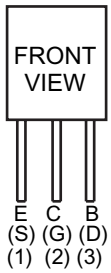
2. In the main section, a tape is being played back.
3. In the deck section, a tape is being played back.
4. In the power section, a tape is being played back.
5. In the CD section, the CD is stopped.

- Parts marked with “ ⚠ ” (⊏ ニ ニ ニ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

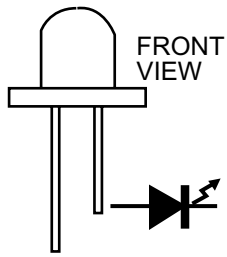
REF. NO	DESCRIPTION	POSITION
SW1	CLAMP	ON—OFF
SW1A	PICKUP IN	ON—OFF
SW2	TRAY SW1	ON—OFF
SW3	TRAY SW2	ON—OFF
SW4	DISC	ON—OFF
SW701	ON/STAND-BY	ON—OFF
SW702	CLOCK/TIMER	ON—OFF
SW703	REVERSE MODE	ON—OFF
SW704	REVERSE PLAY	ON—OFF
SW705	PRESET DOWN	ON—OFF
SW706	ASPM	ON—OFF
SW707	PTY. TI SEARCH	ON—OFF
SW708	DISPLAY MODE	ON—OFF
SW709	CD	ON—OFF
SW710	TUNER (BAND)	ON—OFF
SW711	VIDEO/AUX	ON—OFF

REF. NO	DESCRIPTION	POSITION
SW712	TAPE	ON—OFF
SW713	REC/PAUSE	ON—OFF
SW714	TUNING/TIME UP	ON—OFF
SW715	TUNING/TIME DOWN	ON—OFF
SW716	STOP	ON—OFF
SW717	PLAY	ON—OFF
SW718	PRESET UP	ON—OFF
SW719	X-BASS/DEMO	ON—OFF
SW720	EQUALISER	ON—OFF
SW721	MEMORY/SET	ON—OFF
SW722	DIRECT PLAY	ON—OFF
SW723	DISC 1	ON—OFF
SW724	DISC 2	ON—OFF
SW725	DISC 3	ON—OFF
SW726	DISC 4	ON—OFF
SW727	DISC 5	ON—OFF
SW728	OPEN/CLOSE	ON—OFF

[2] TYPES OF TRANSISTOR AND LED



KRC102 S
KRC104 S
KRA107 S
KRA102 S
KTA1504 Y
KTA1271 Y
KTA1273 Y
KTA1274 Y
KTA1504 GR
KTC3199 GR
KTC3200 GR
KTC3875 GR
KTC3203 Y
2SC380 O
2SD601 AR



SVC347S

[3] WIRING SIDE OF P.W.BOARD/SCHEMATIC DIAGRAM

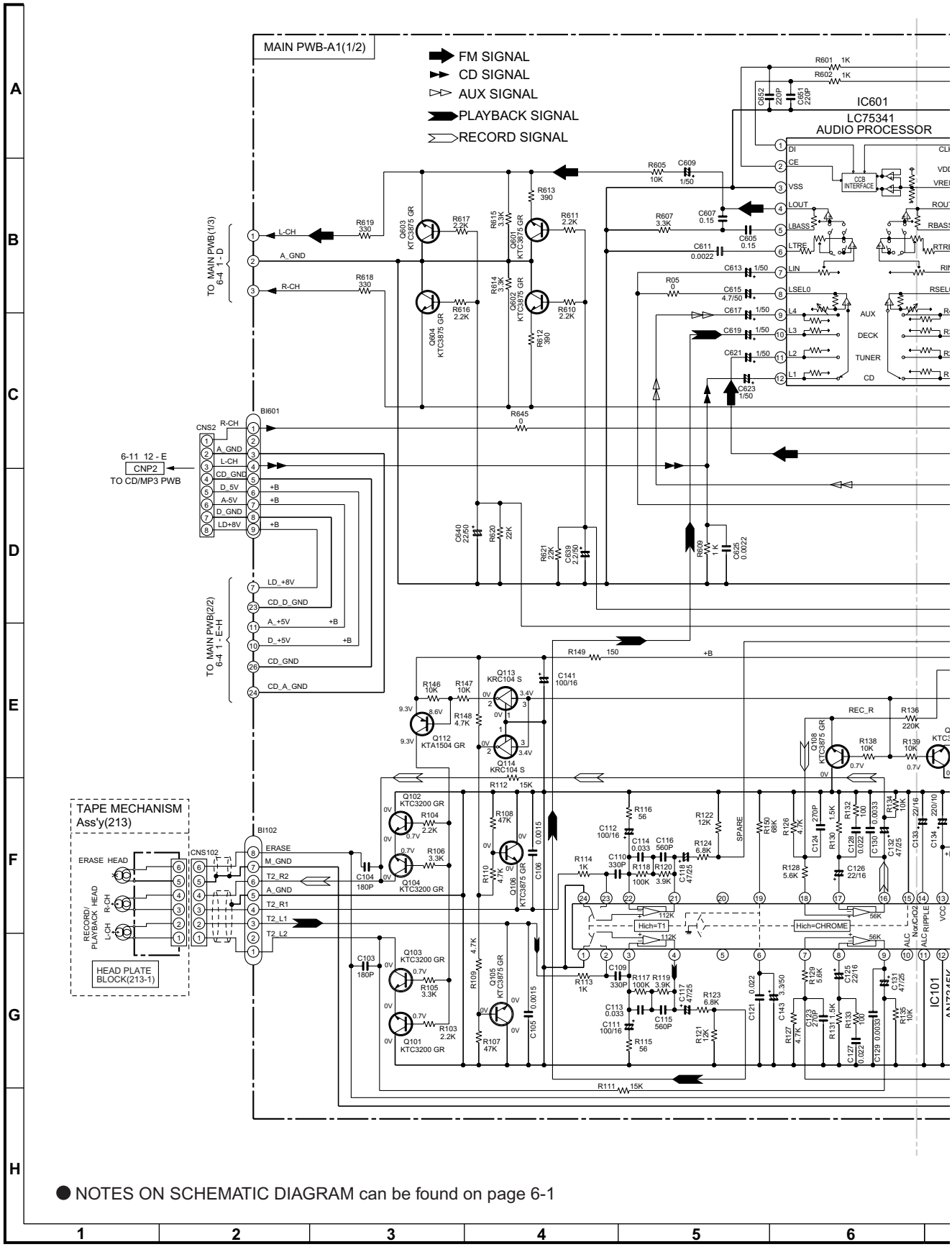
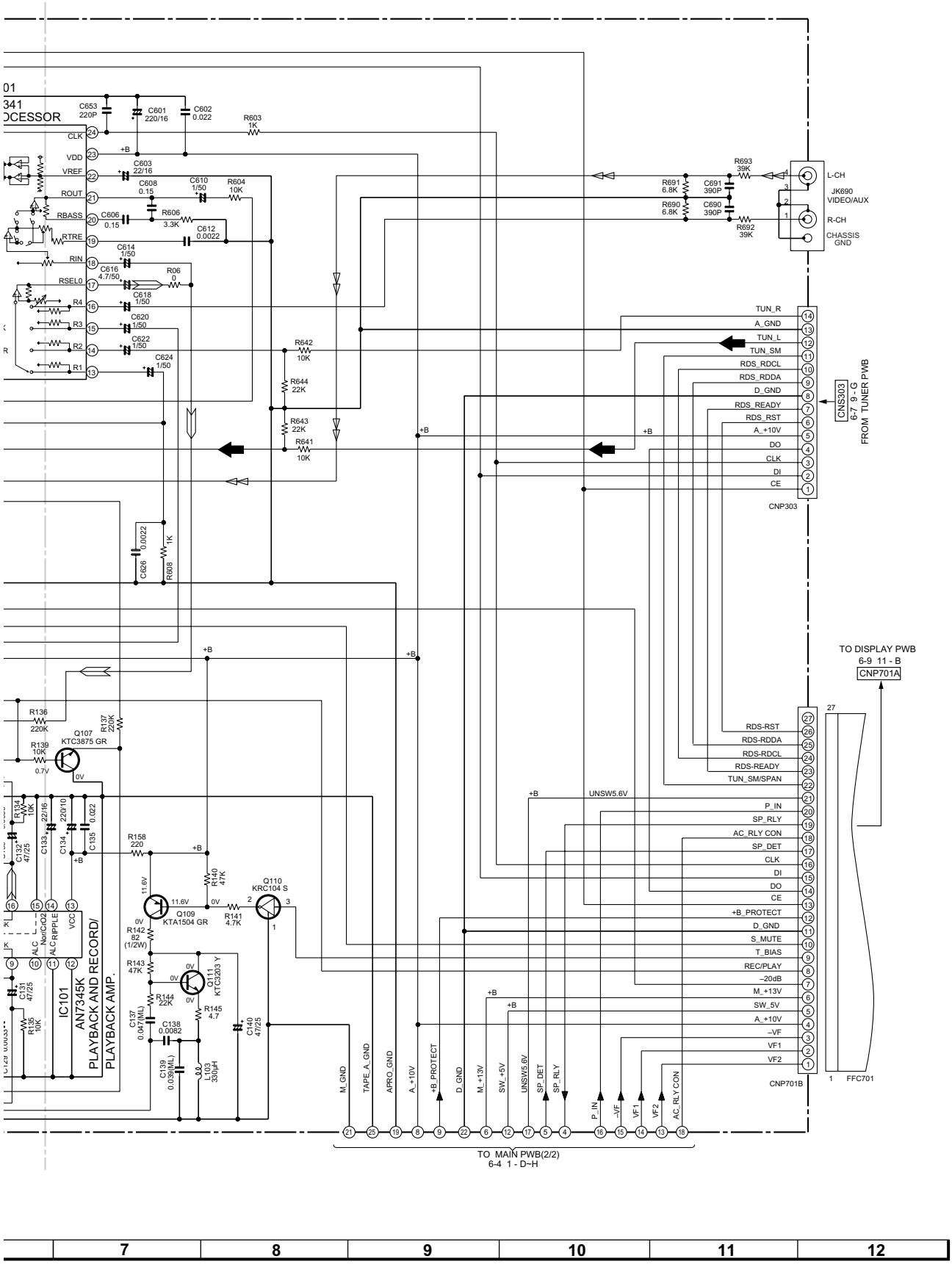
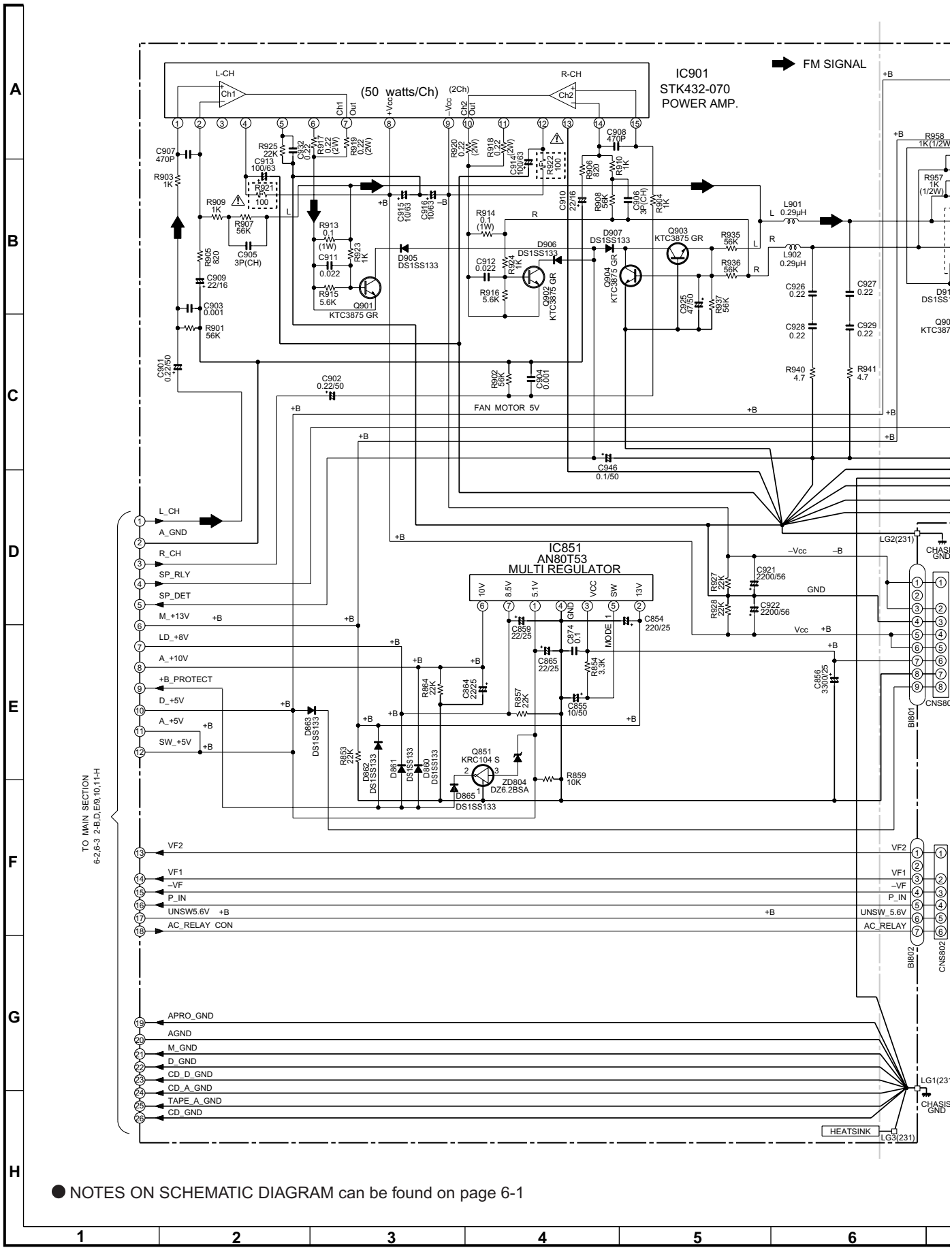


Figure 6-2 SCHEMATIC DIAGRAM (1/10)



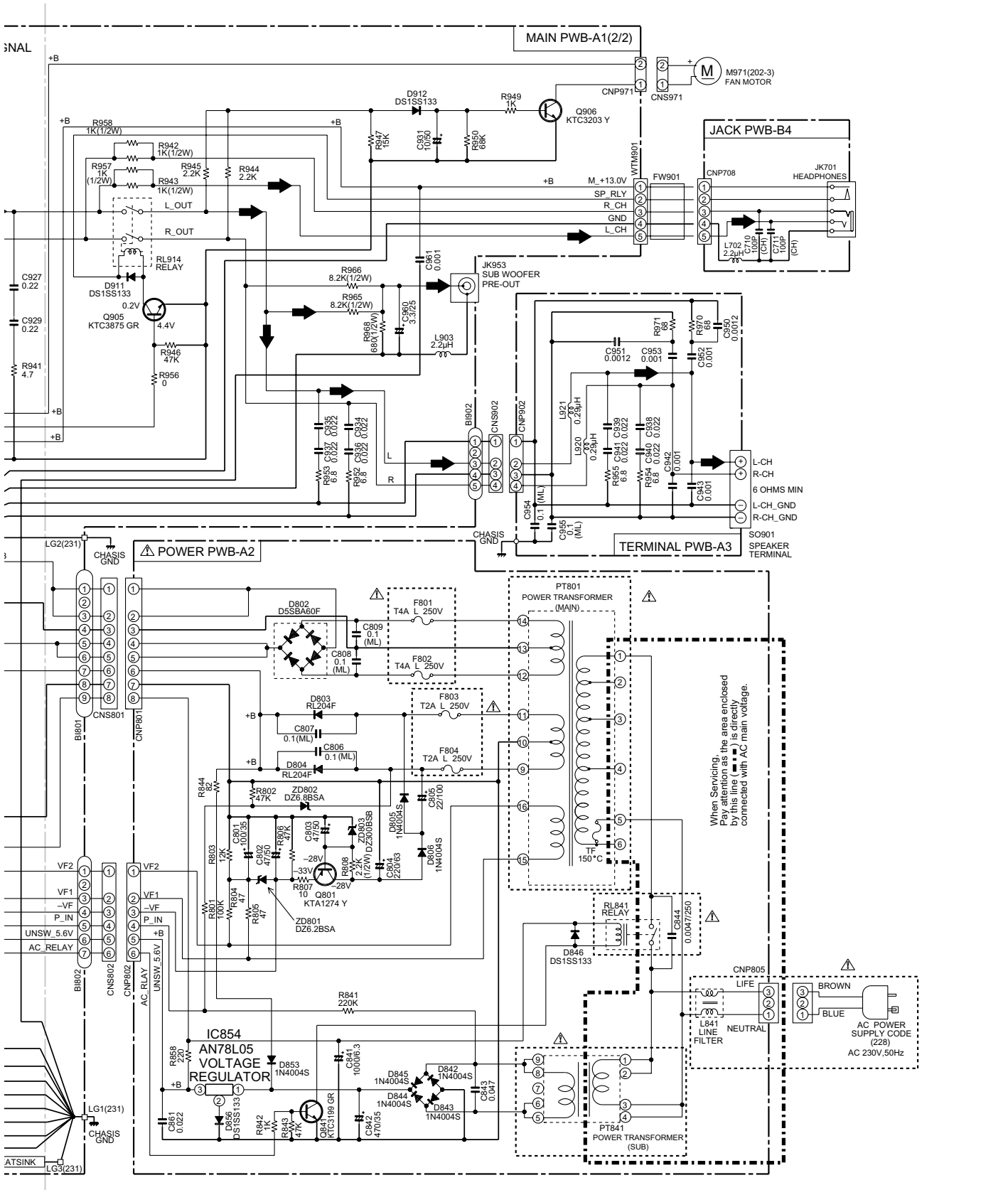
	7	8	9	10	11	12

Figure 6-3 SCHEMATIC DIAGRAM (2/10)



● NOTES ON SCHEMATIC DIAGRAM can be found on page 6-1

Figure 6-4 SCHEMATIC DIAGRAM (3/10)



6	7	8	9	10	11	12

Figure 6-5 SCHEMATIC DIAGRAM (4/10)

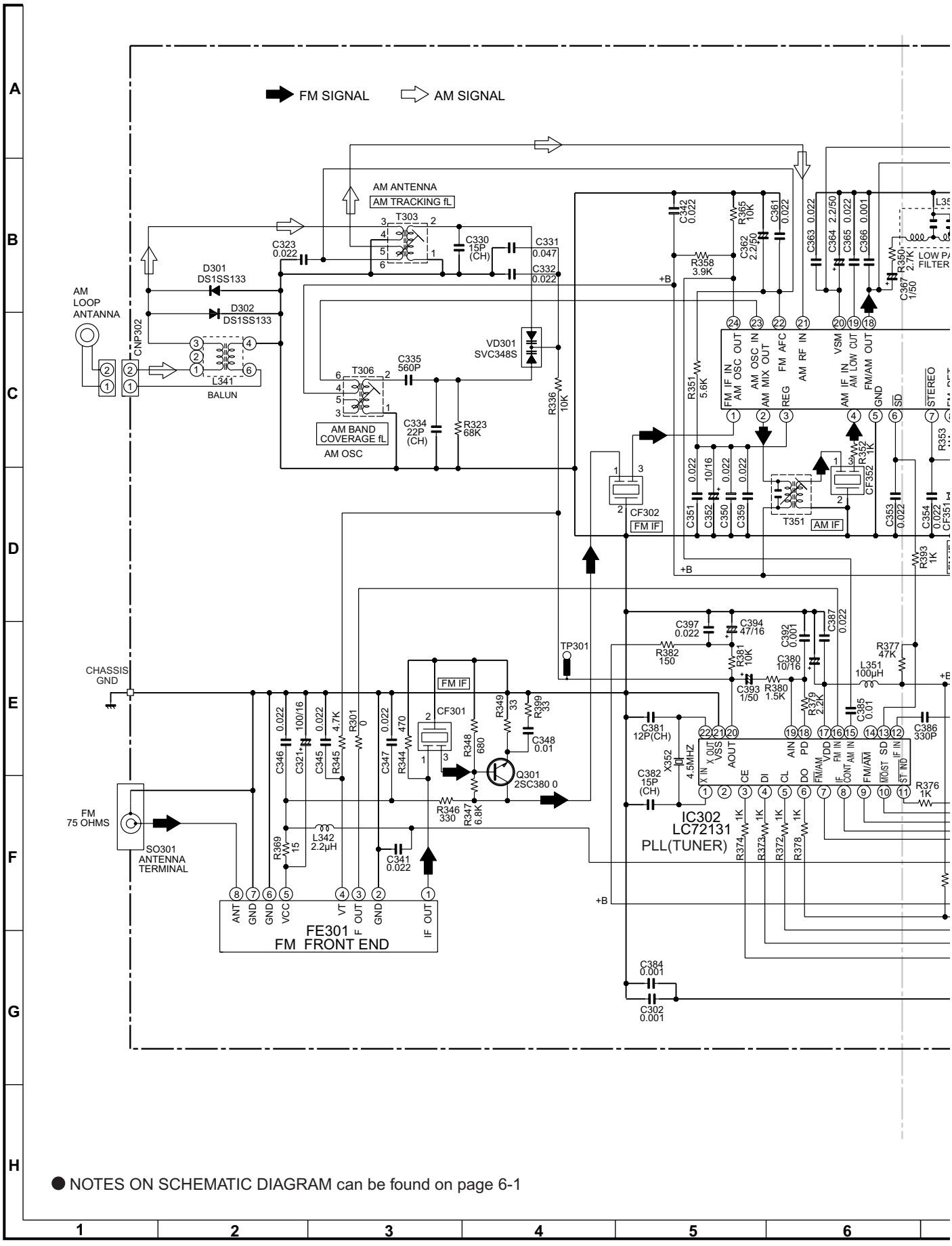
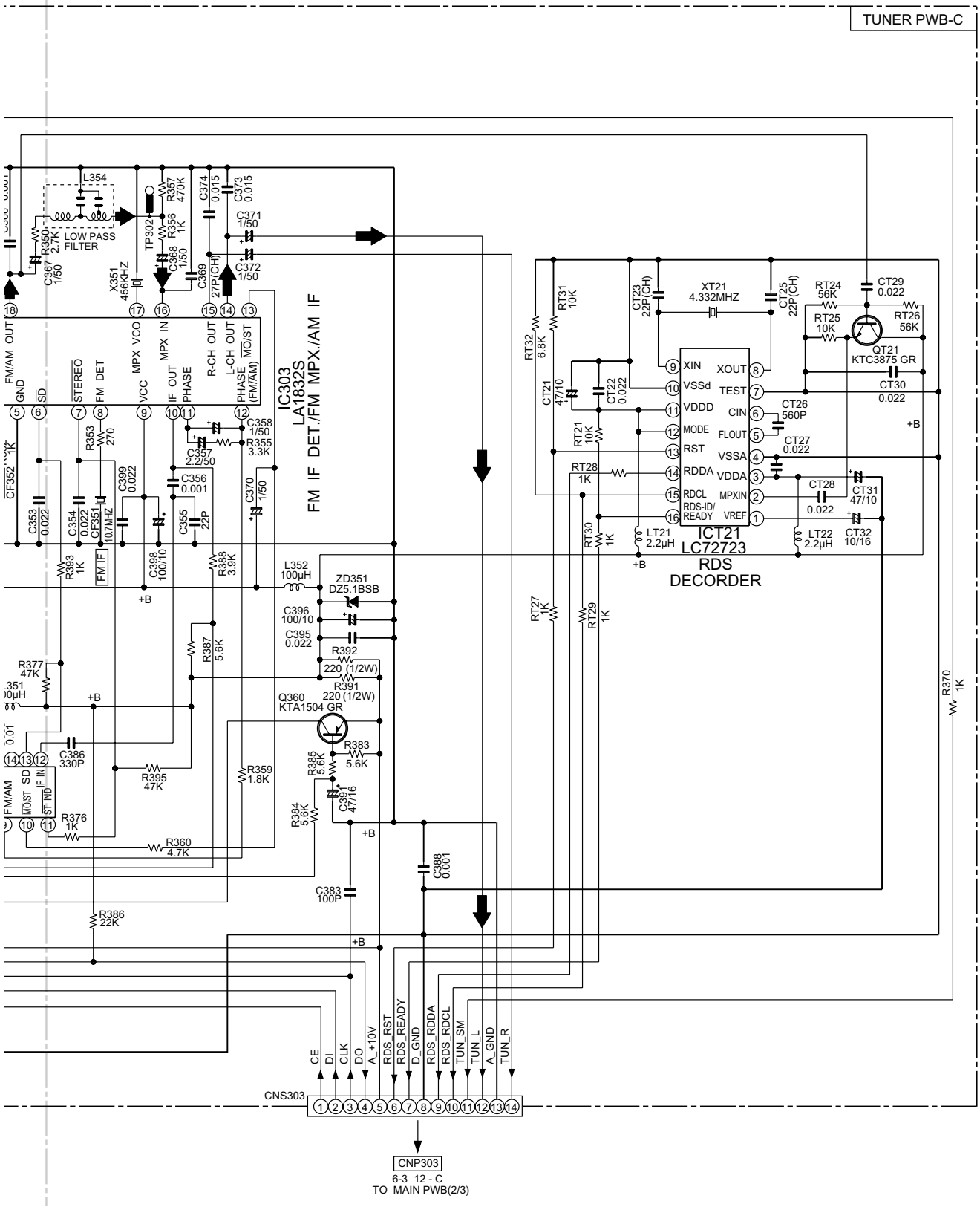
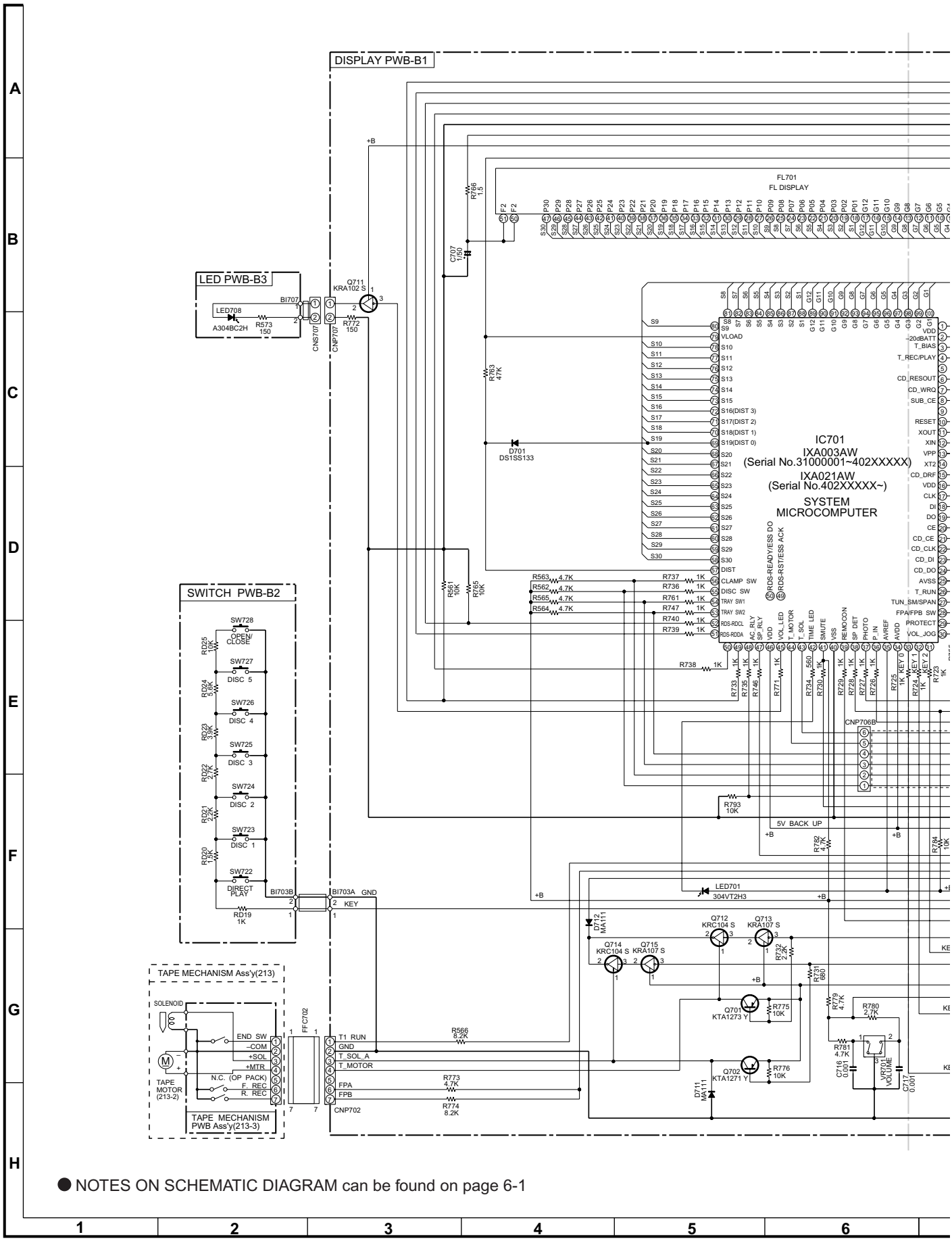


Figure 6-6 SCHEMATIC DIAGRAM (5/10)



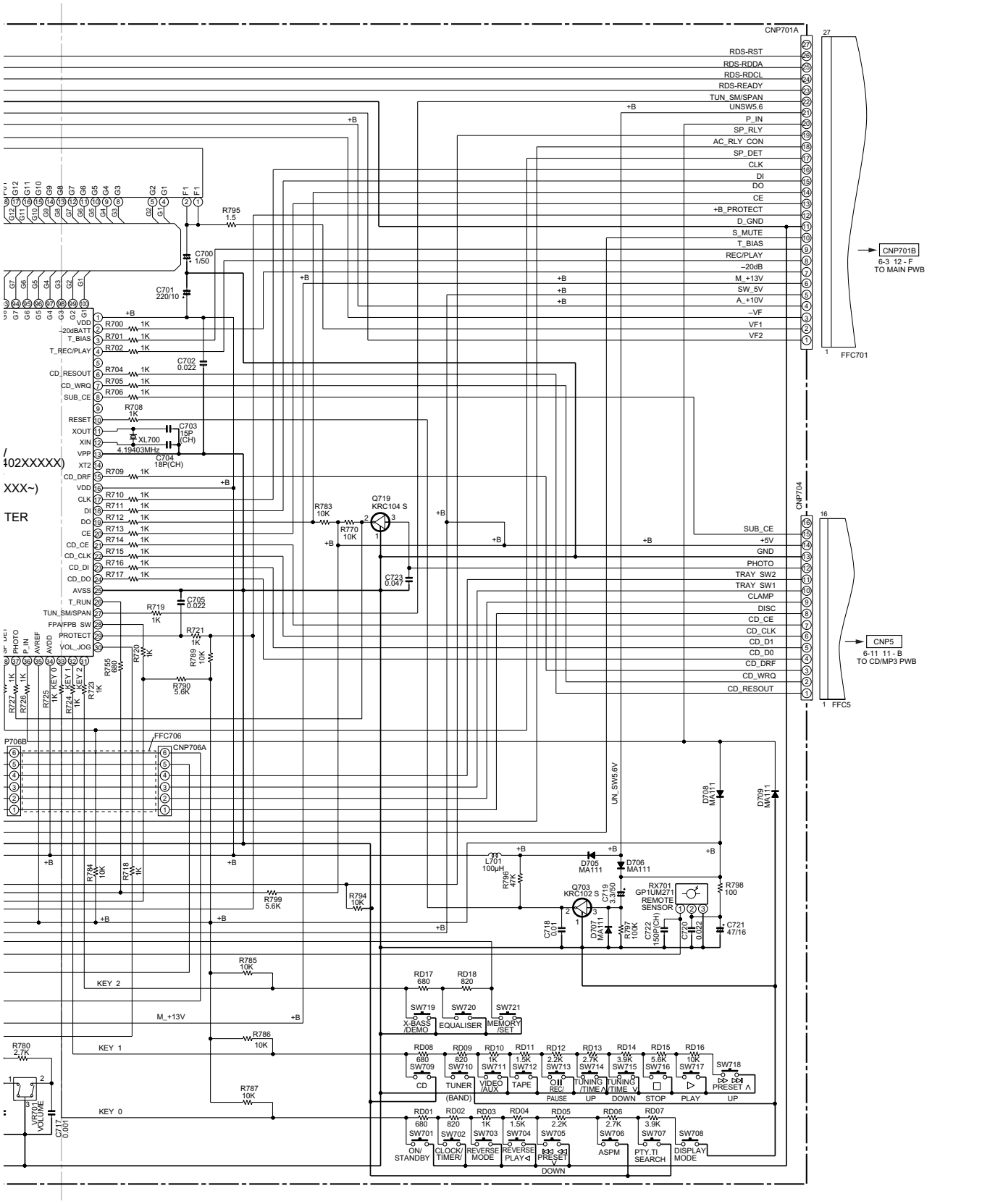
	7	8	9	10	11	12

Figure 6-7 SCHEMATIC DIAGRAM (6/10)



● NOTES ON SCHEMATIC DIAGRAM can be found on page 6-1

Figure 6-8 SCHEMATIC DIAGRAM (7/10)



7	8	9	10	11	12

Figure 6-9 SCHEMATIC DIAGRAM (8/10)

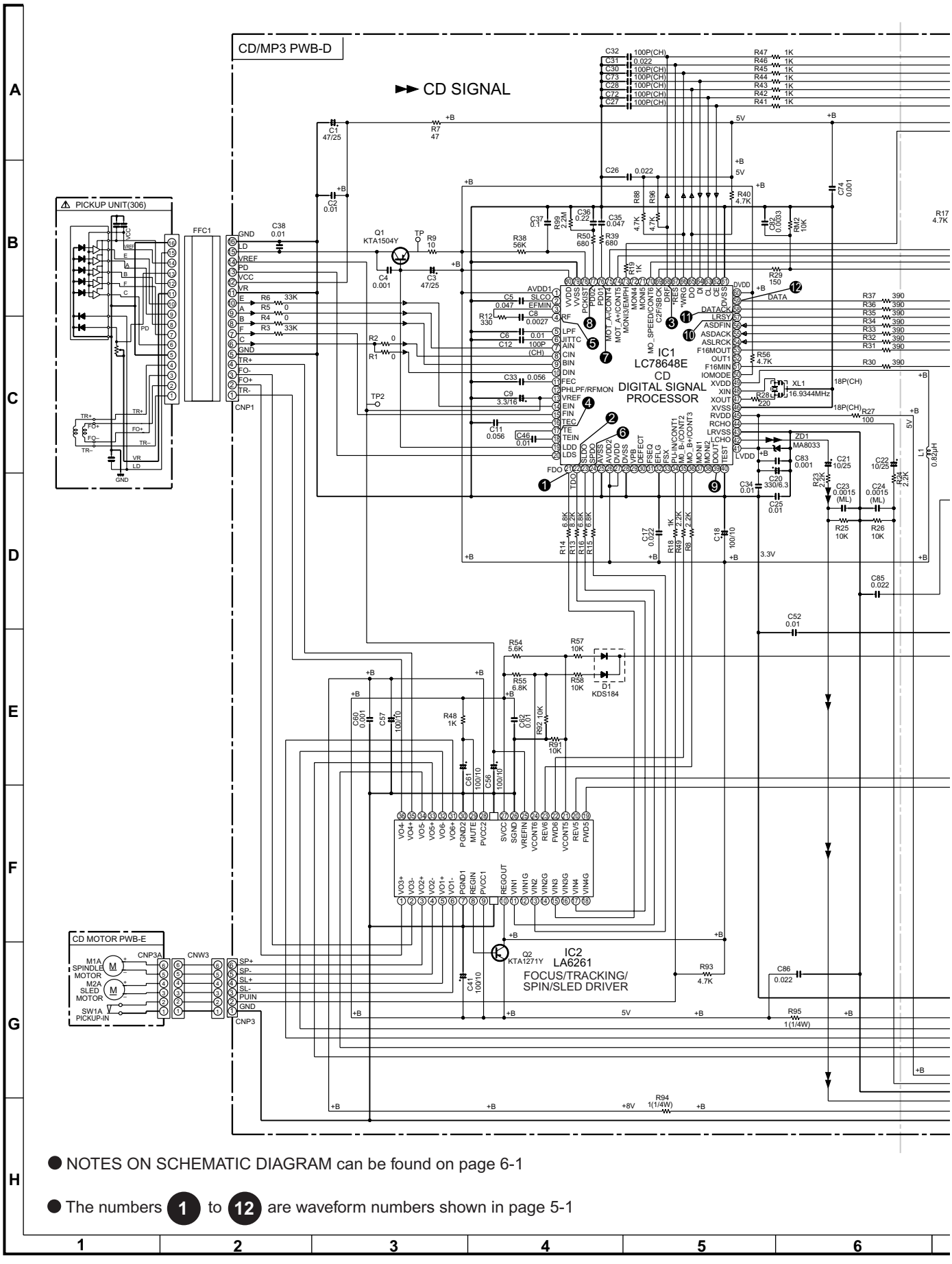
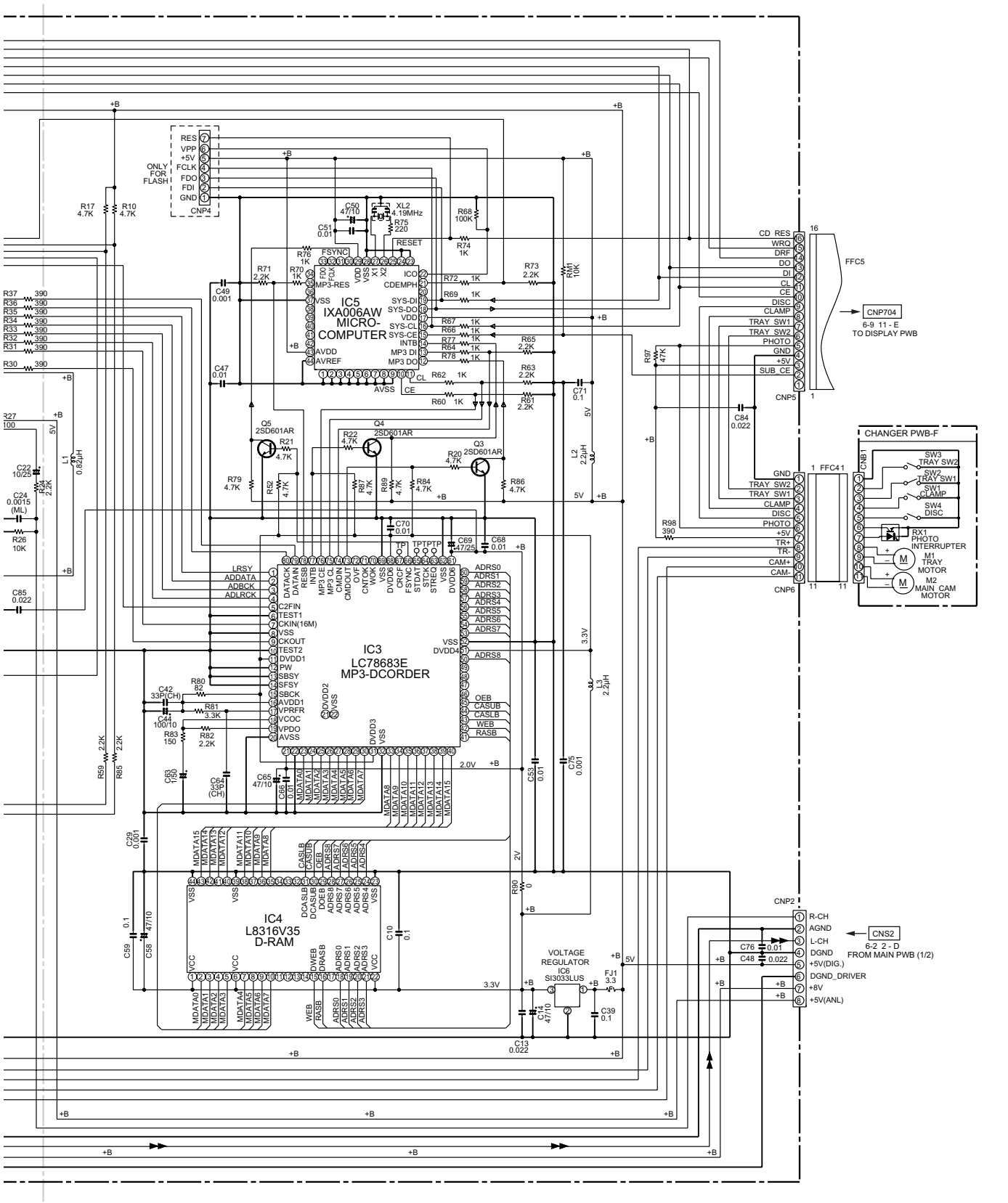


Figure 6-10 SCHEMATIC DIAGRAM (9/10)



7	8	9	10	11	12

Figure 6-11 SCHEMATIC DIAGRAM (10/10)

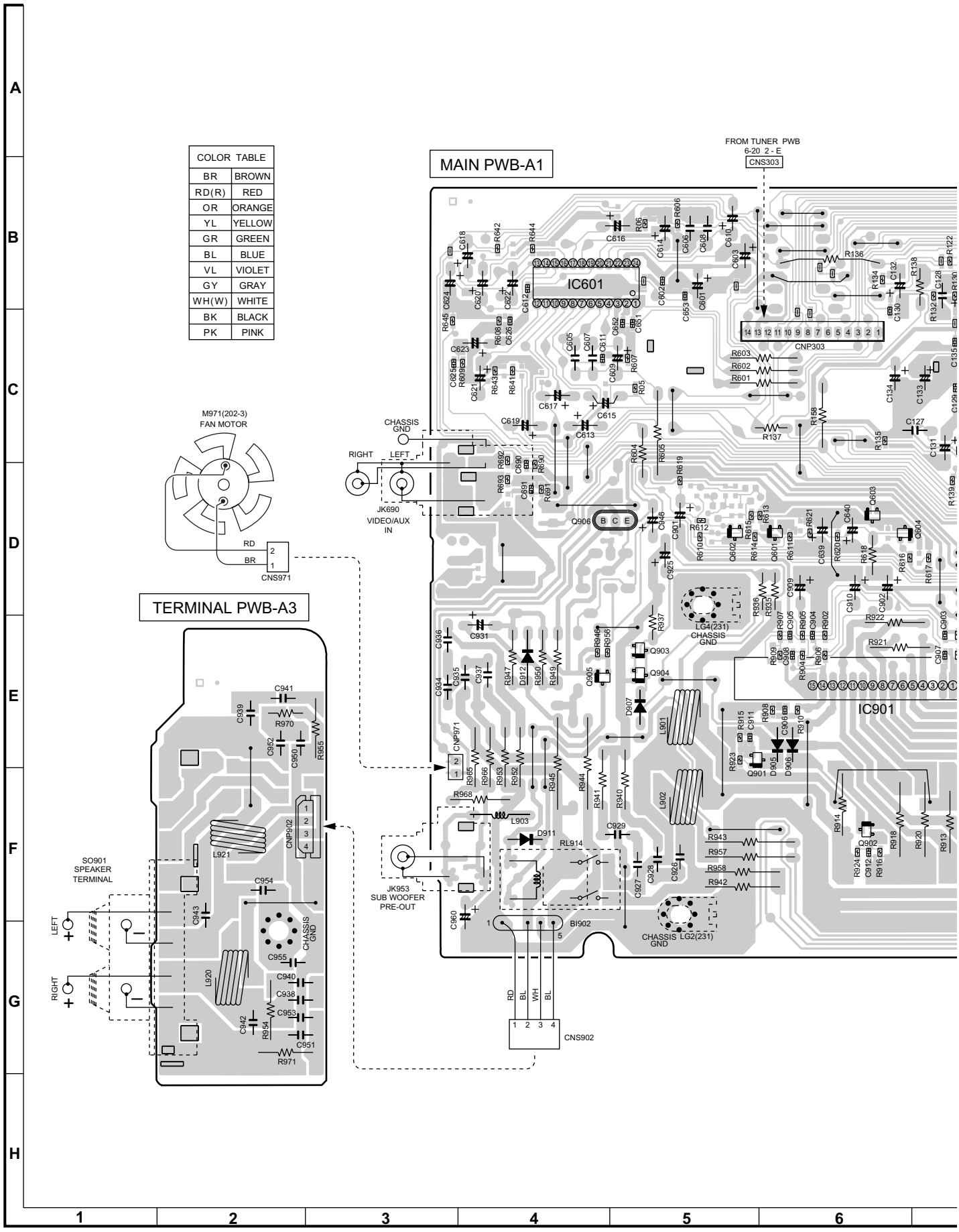
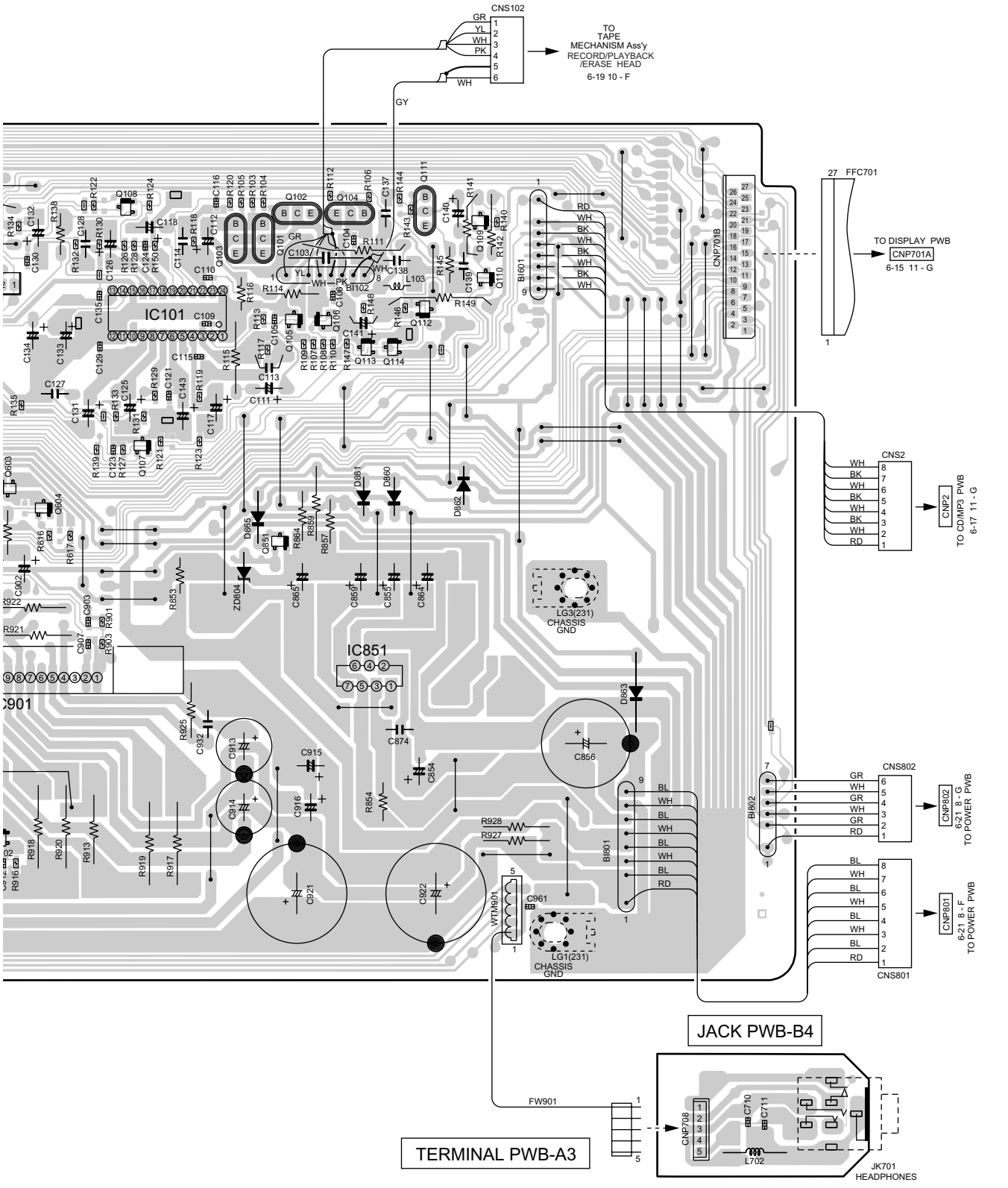


Figure 6-12 WIRING SIDE OF P.W.BOARD (1/10)



	7	8	9	10	11	12

Figure 6-13 WIRING SIDE OF P.W.BOARD (2/10)

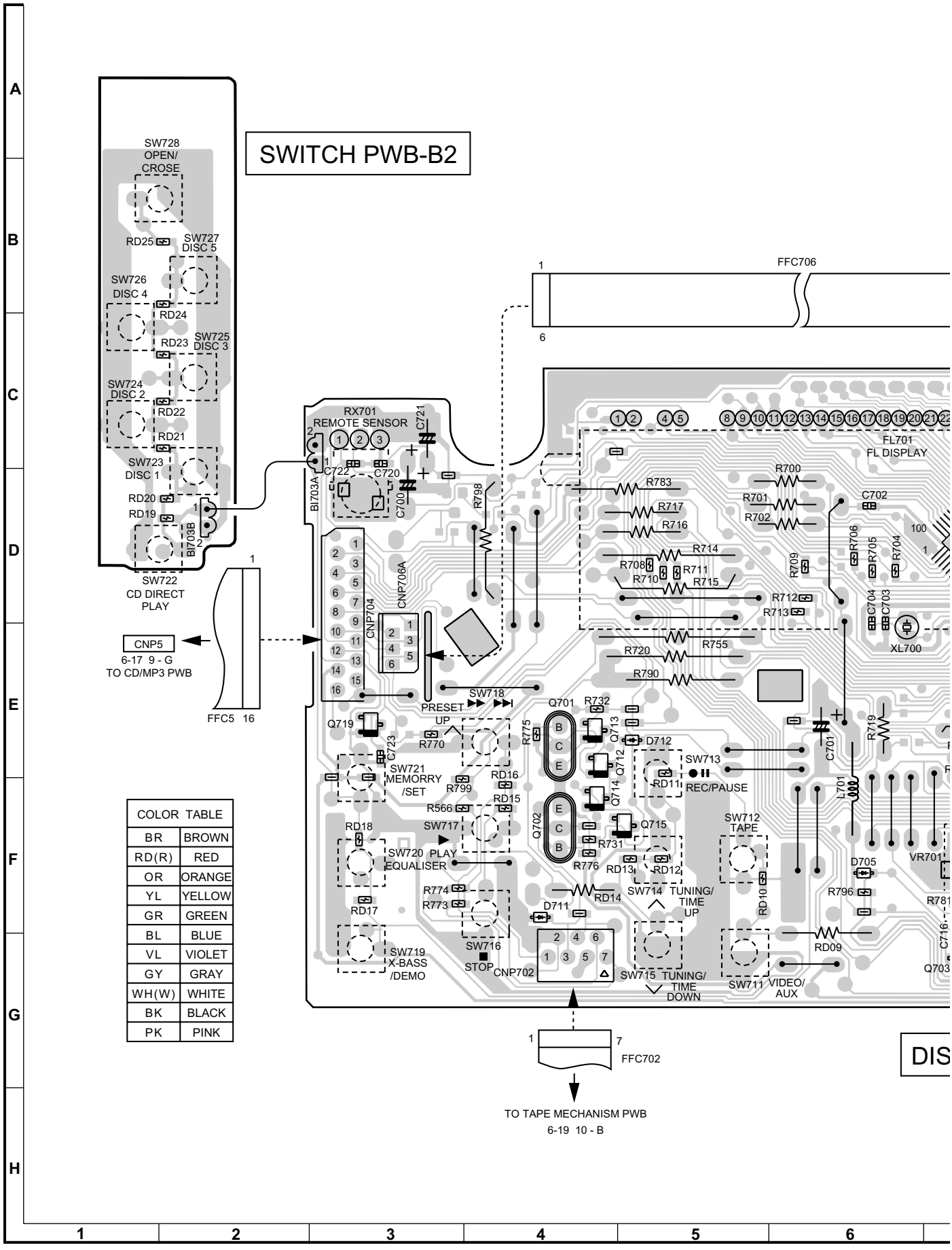
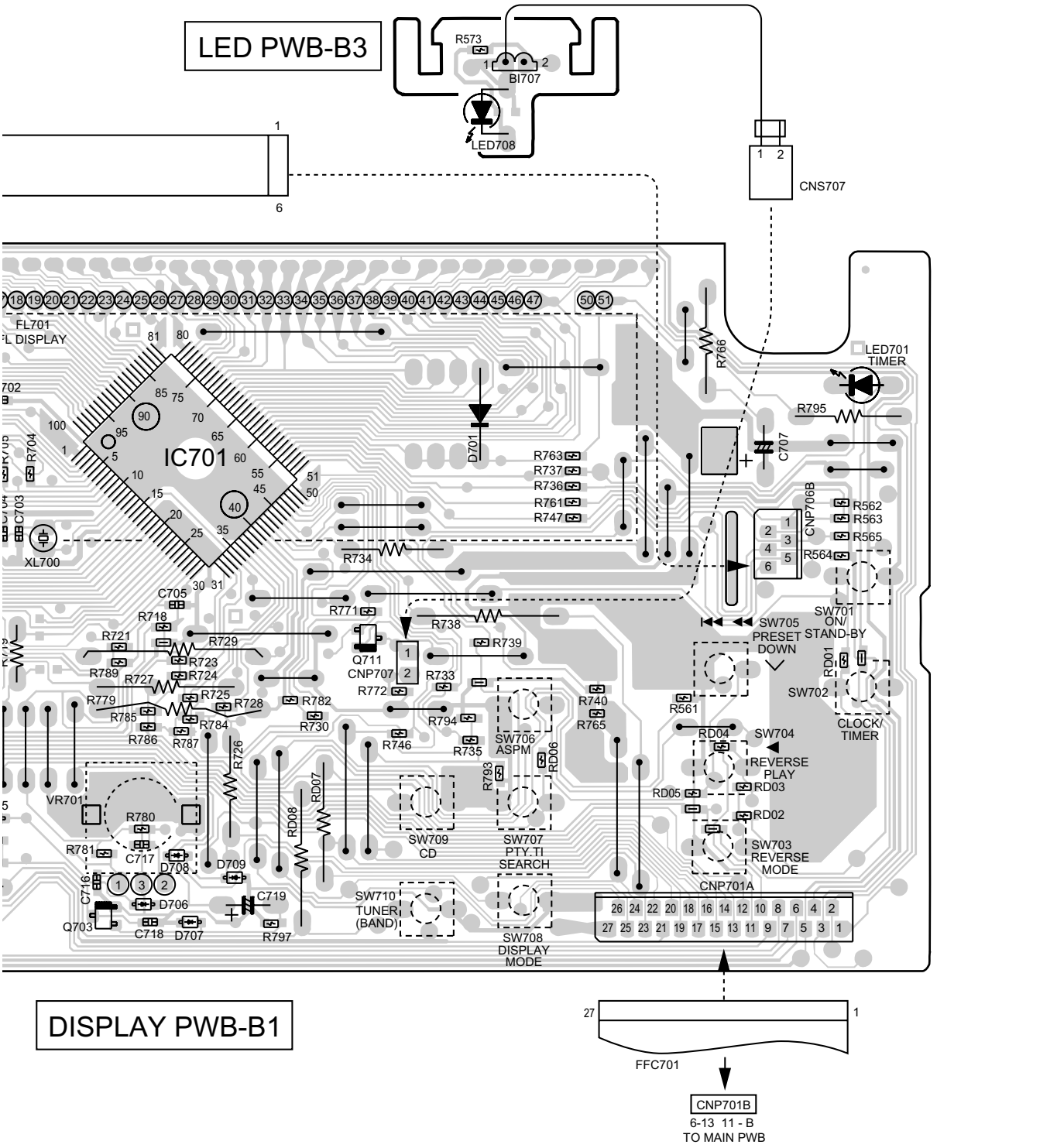


Figure 6-14 WIRING SIDE OF P.W.BOARD (3/10)



	7	8	9	10	11	12

Figure 6-15 WIRING SIDE OF P.W.BOARD (4/10)

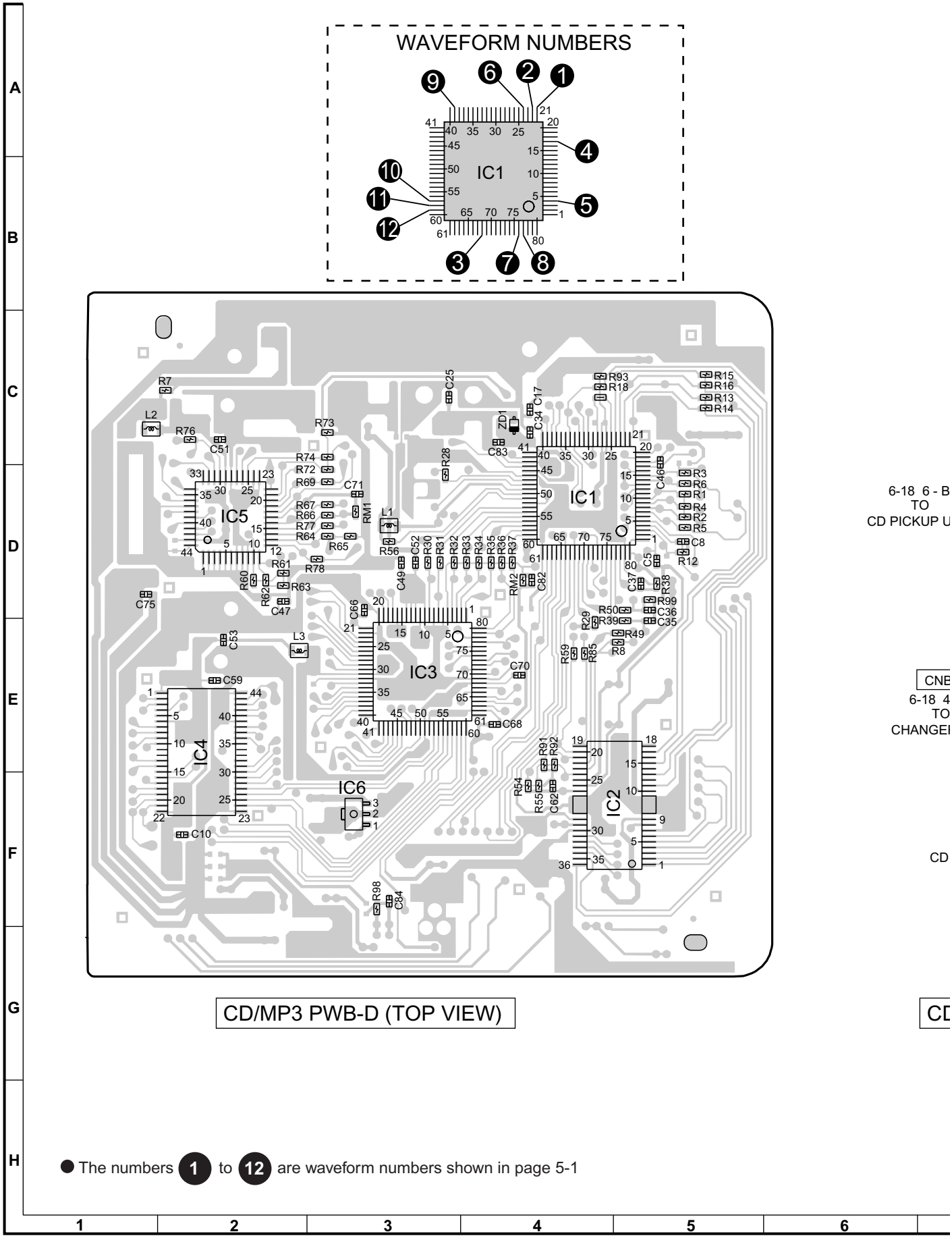
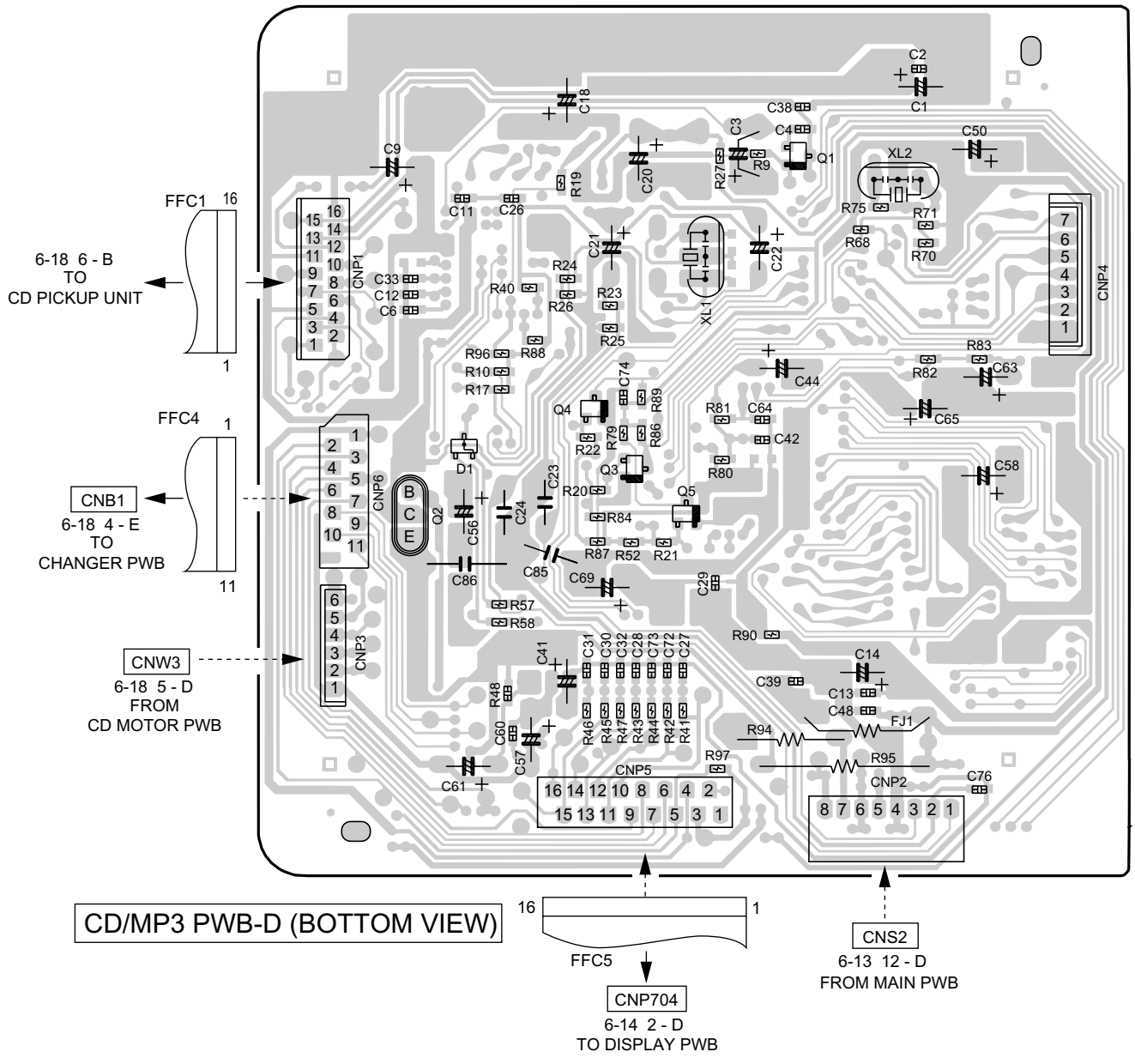


Figure 6-16 WIRING SIDE OF P.W.BOARD (5/10)



	7	8	9	10	11	12

Figure 6-17 WIRING SIDE OF P.W.BOARD (6/10)

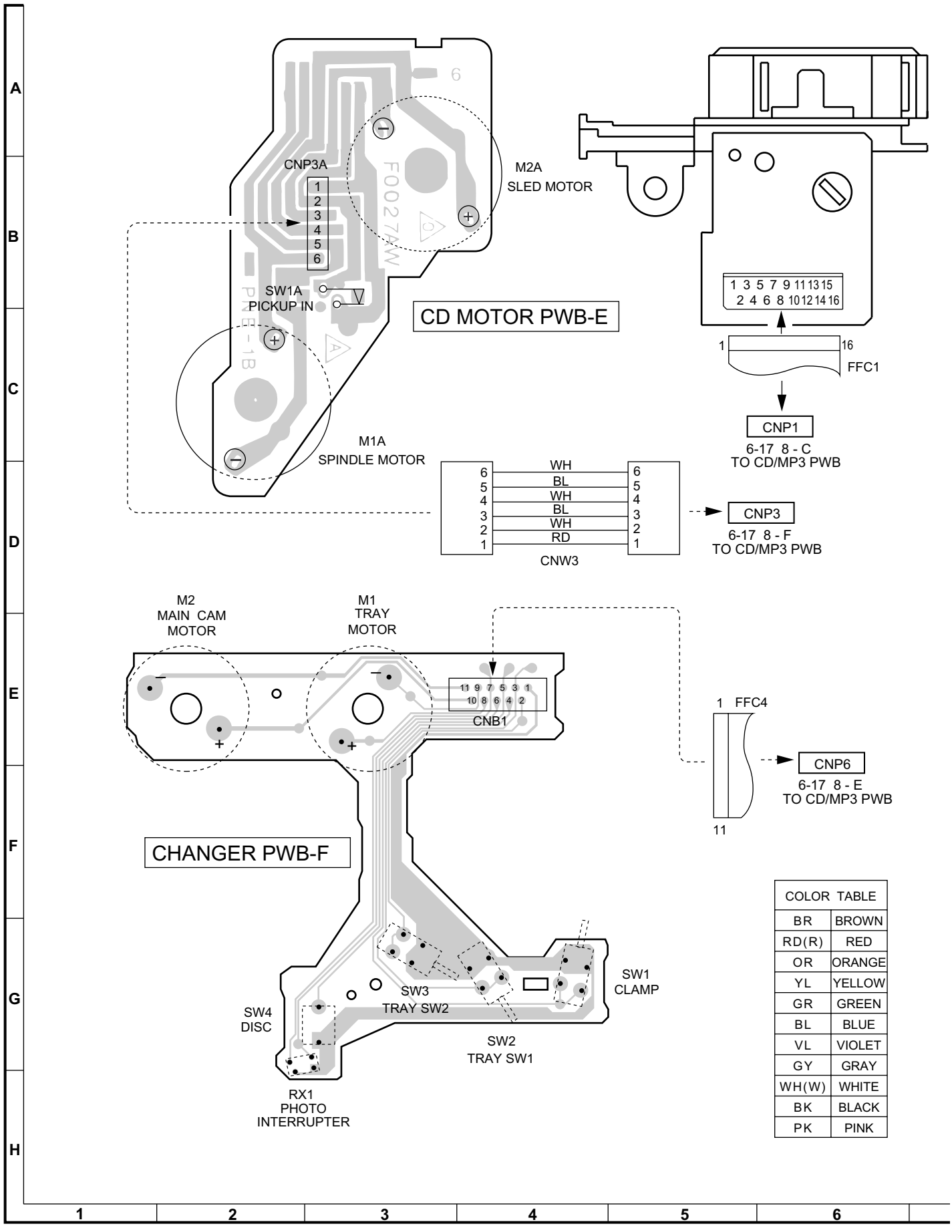
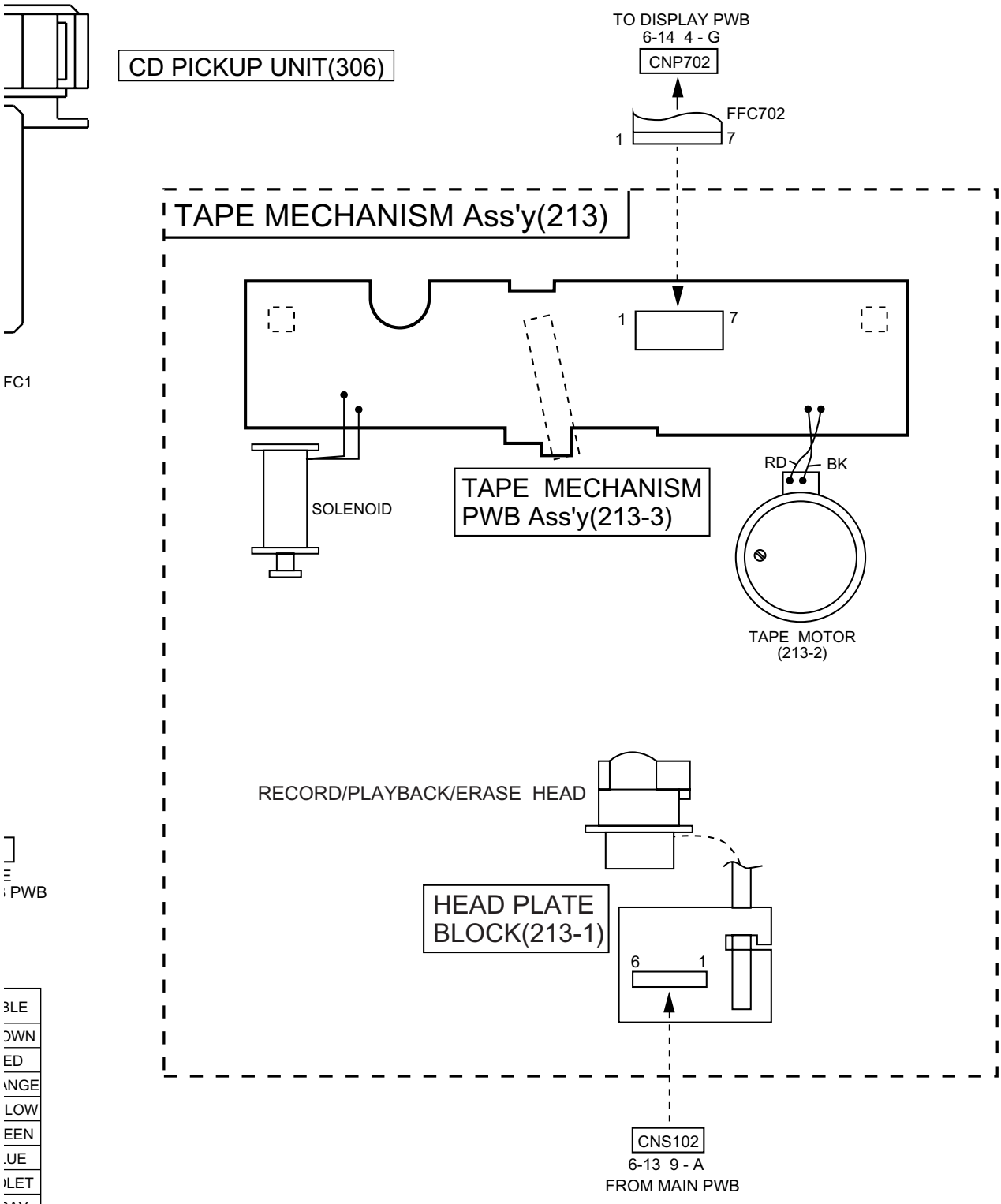


Figure 6-18 WIRING SIDE OF P.W.BOARD (7/10)



7	8	9	10	11	12

Figure 6-19 WIRING SIDE OF P.W.BOARD (8/10)

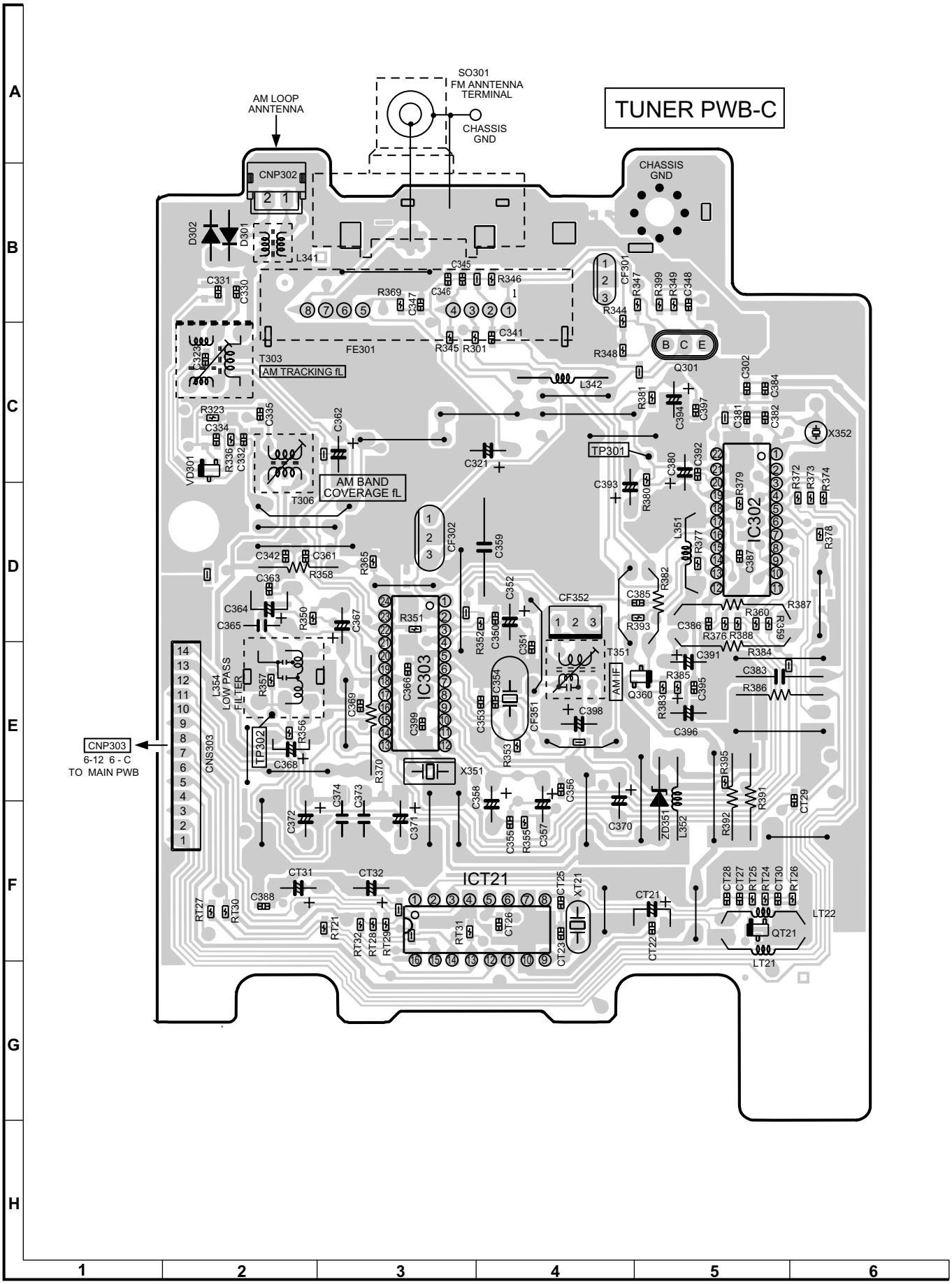
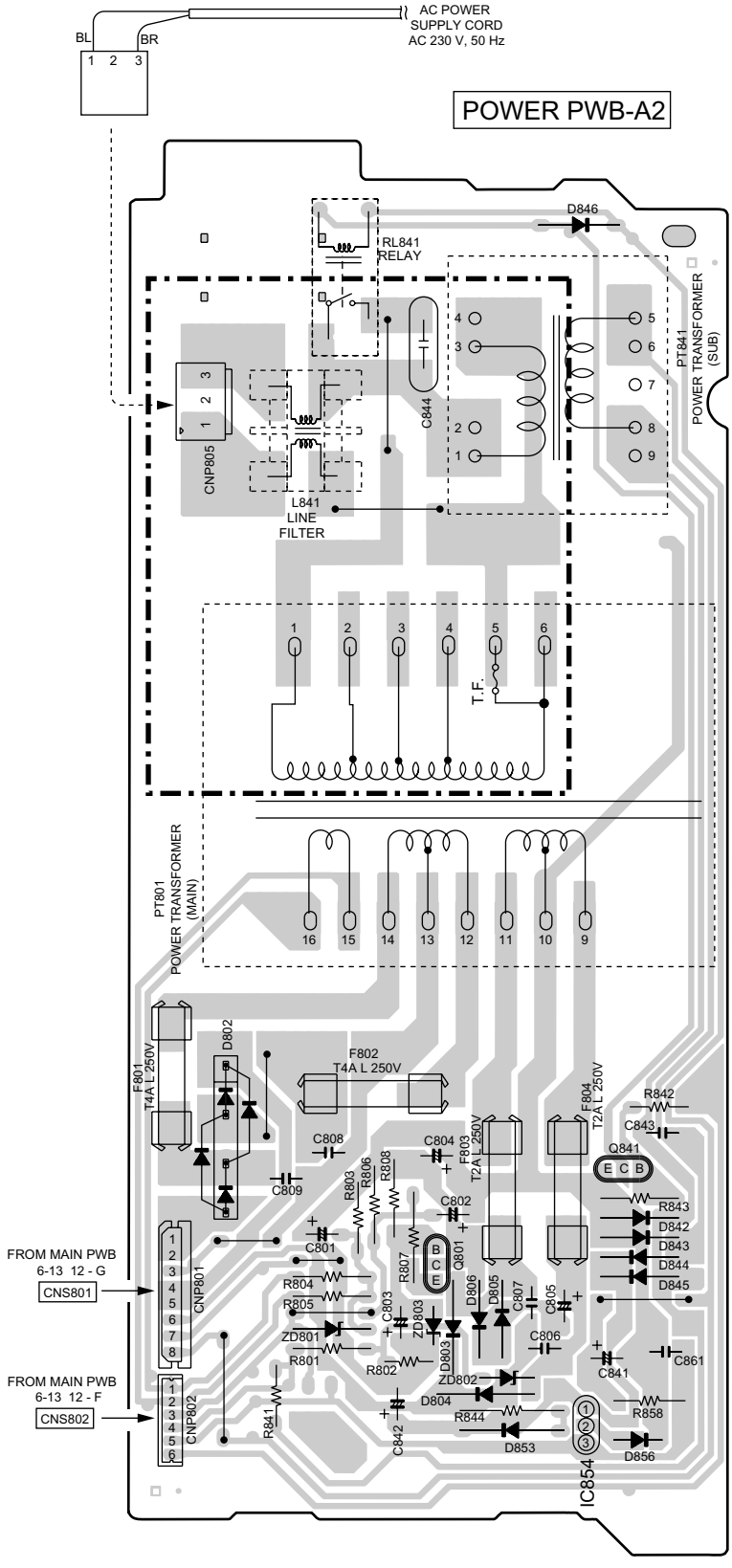


Figure 6-20 WIRING SIDE OF P.W.BOARD (9/10)



When Servicing,
Pay attention as the area enclosed by this line (▬ • ▬) is directly connected with AC main voltage.

COLOR TABLE	
BR	BROWN
RD(R)	RED
OR	ORANGE
YL	YELLOW
GR	GREEN
BL	BLUE
VL	VIOLET
GY	GRAY
WH(W)	WHITE
BK	BLACK
PK	PINK

7	8	9	10	11	12

Figure 6-21 WIRING SIDE OF P.W.BOARD (10/10)

CHAPTER 7. FLOWCHART

[1] TROUBLESHOOTING

1. When the CD does not function

The CD section may not operate when the objective lens of the optical pickup is dirty. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items.

Remove the cabinet and follow the trouble shooting instructions.

"Track skipping and/or no TOC (Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.

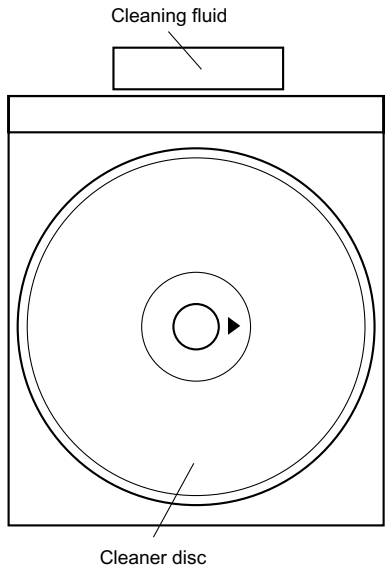
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

Do not touch the lens with the bare hand.

		Parts code
1.	CD optical pickup Lens cleaner disc	UDSKA0004AFZZ

HOW TO USE

1. Using the brush in the cleaner cap, apply 1 or 2 drops of the cleaning fluid to the brush on the CD cleaner disc which has the mark next to it.
2. Place the CD cleaner disc onto the CD disc tray with the brush side down,then press the play button.
3. You will hear music for about 20 seconds and the CD player will automatically stop. If it still play continuously, press the stop button.



CAUTION

- The CD lens cleaner should be effective for 30-50 operations, however if the brushes become worn out earlier then please replace the cleaner disc.
- If the CD cleaner brushes become very wet then wipe off any excess fluid with a soft cloth.
- Do not drink the cleaner fluid or allow it contact with the eyes. In the event of this happening then drink and / or rinse with clean water and seek medical advice.
- The CD cleaner disc must not be used on car CD players or on computer CD-ROM drives.
- All rights reserved. Unauthorized duplicating, broadcasting and renting this product is prohibited by law.

2. When a CD cannot be played

2.1. "E-CD01" is displayed.

1) Check the power to IC1 (LC78648E), the presence of the clock signal (16.9344 MHz) and the status of the RESET terminal (pin 66 on IC1).
2) Does the pickup move to the PICKUP-IN Switch (SW1A) position?

   If (1) and (2) are OK, check the system microcomputer (especially the communication line with the DSP).

2.2. Pressing the CD operation key is accepted, but playback does not occur.

1) Focus-HF system check
2) Tracking system check
3) Spin system check
4) PLL system check
5) Others

(1) Focus-HF system check.

Although a CD is inserted and the cover is closed, "NO DISC" is displayed.

Press the Tray1 CD Eject Button without inserting a disc, and try starting the playback operation.

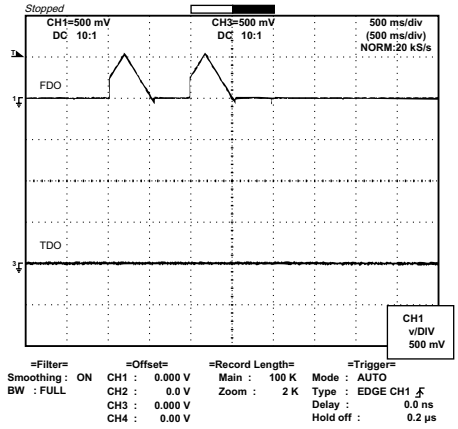


Figure 1

1. Does the pickup move to the PICKUP-IN Switch (SW1A) position?
   - No → Sled motor (M2A).
   - Yes ↓

2. Does the focus (lens) move up and down? (Waveform drawing Figure 1)
   - No → Check the focus peripheral circuit.
   - Yes ↓

3. Is the laser lit?
   - No → Check the laser diode driver Q1 peripheral circuit.
   - Yes ↓

4. Is the turntable rotating?
   - No → Spindle motor (M1A).

When a disc is loaded, start playback operation.

1. Is focus servo activated? (Waveform drawing Figure 2)
   - No → Pins 7~11, 13,19 and 20 on IC1. Check the laser diode driver Q1 peripheral circuit.
   - Yes ↓

2. Does DRF change from "L" to "H"?
   - No → Is the disc rotating?
     - No → Check the spin system.
     - Yes → If the disc is spinning and a HF waveform is generated, DRF will go H.
   - Yes ↓

3. Is the HF waveform normal? (Waveform drawing Figure 3)
   - No → If the level is not normal.

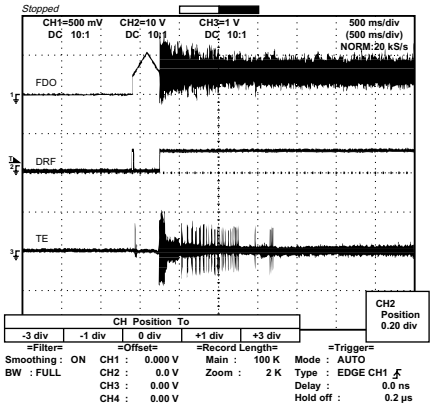


Figure 2

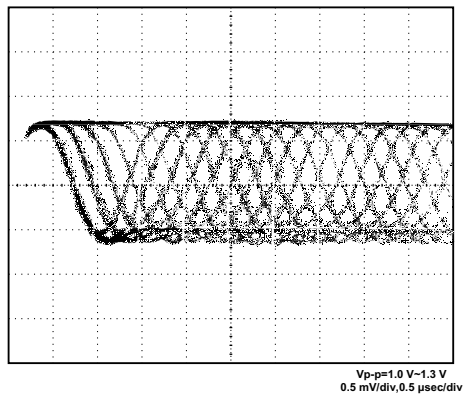


Figure 3

(2) Focus-HF system check.

Check the TE waveform at pin 17 on IC1.

If the waveform shown in Figure 4 appears and soon after NO DISC appears? → Yes → The tracking servo is not activated. Check the peripheral circuits at pins 16, 17 and 22 on IC1, and FFC1.

↓ No

"Initialization" is possible, but play is not possible? → Yes → A normal jump operation cannot be completed or the beginning of the track cannot be found. Check the around pin 22 on IC1.

↓ No

"Initialization" is not possible. → Data cannot be read. Check the VCO-PLL (Pin76~80 on IC1) system.

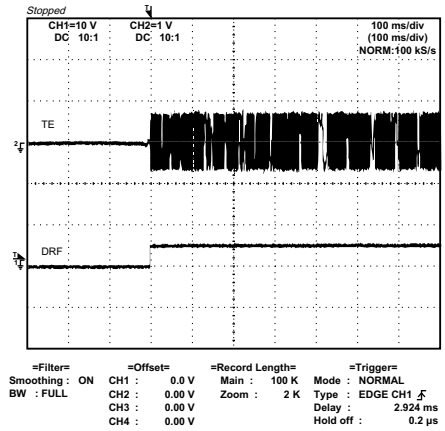

Stopped
CH1=10 V DC 10:1
CH2=1 V DC 10:1
100 ms/div (100 ms/div) NORM:100 kS/s
TE
DRF
=Filter= Smoothing : ON BW : FULL
=Offset= CH1 : 0.0 V CH2 : 0.00 V CH3 : 0.00 V CH4 : 0.00 V
=Record Length= Main : 100 K Zoom : 2 K
=Trigger= Mode : NORMAL Type : EDGE CH1 Delay : 2.924 ms Hold off : 0.2 µs

Figure 4

(3) Spin system check.

Press the OPEN/CLOSE switch without inserting a disc, and then try starting the play operation.

↓

1. The turntable rotates a little? (Waveform drawing Figure 5) → Yes → The spin driver circuit is OK.

↓ No

2. The turntable doesn't rotate. → Check around pin 24 on IC1, pins 3 and 4 on IC2, and CNW3.

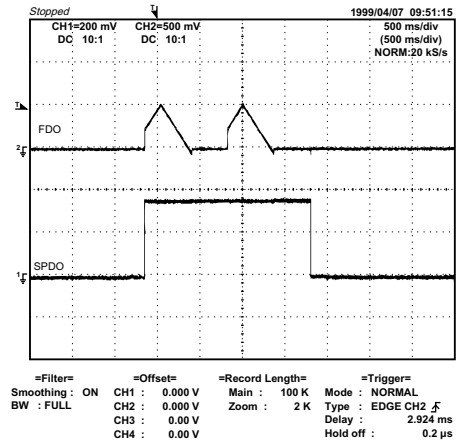

Stopped
1999/04/07 09:51:15
CH1=200 mV DC 10:1
CH2=500 mV DC 10:1
500 ms/div (500 ms/div) NORM:20 kS/s
FDO
SPDO
=Filter= Smoothing : ON BW : FULL
=Offset= CH1 : 0.000 V CH2 : 0.000 V CH3 : 0.00 V CH4 : 0.00 V
=Record Length= Main : 100 K Zoom : 2 K
=Trigger= Mode : NORMAL Type : EDGE CH2 Delay : 2.924 ms Hold off : 0.2 µs

Figure 5

(4) PLL system check.

When a disc is loaded, start play operation.

↓

The HF waveform is normal, but the TOC data cannot be read.

↓

Check the PDO waveform. (Figure 6)

↓

Check around pins 76~80 on IC1.

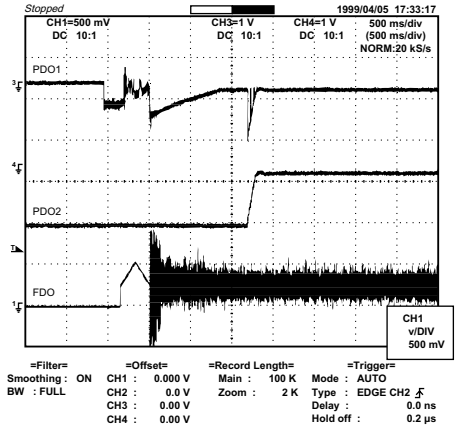


Figure 6

(5) Others.

The HF waveform is normal and the time is displayed normally, but no sound is produced. Or the sound has dropouts.

Is pin 69 (C2F) on IC1 "L"? — No → There are too many error flags on a damaged disc which makes error correction impossible.

↓ Yes

1. When playing at normal speed.
Check the peripheral circuit at pin 39 (DOUT) on IC1 and the waveform (Figure 7).

↓

If OK, Check the unit.

There are too many error flags on a damaged disc which makes error correction impossible. → Check again using a known good disc.

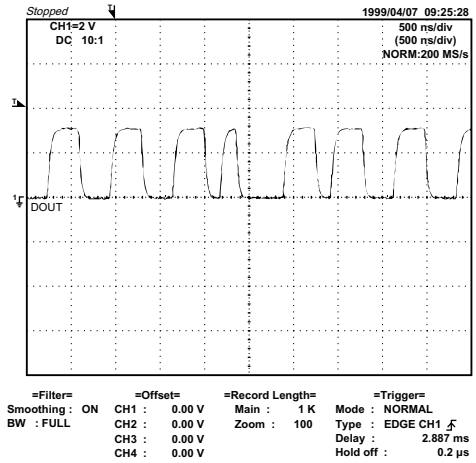


Figure 7

CHAPTER 8. OTHERS

[1] FUNCTION TABLE OF IC

IC1 VHiLC78648E-1: CD Digital Signal Processor (LC78648E) (1/2)

Pin No.	Terminal Name	Input/Output	Setting in Reset	Function	
1	AVDD1	Output	—	Analog power supply pin 1.	
2	SLCO	Output	—	slice level control.	Slice level Control output pin.
3	EFMIN	Input	—		RF signal input pin.
4	RF	Output	—	RF signal Output pin.	
5	LPF	Output	—	RF signal DC level detection LPF capacitor connection pin.	
6	JITTC	Input	—	Jitter detection capacitor connection pin.	
7	AIN	Input	—	A signal input pin.	
8	CIN	Input	—	C signal input pin.	
9	BIN	Input	—	B signal input pin.	
10	DIN	Input	—	D signal input pin.	
11	FEC	Output		FE signal LPF capacitor connection pin.	
12*	PHLPF/RFMON	Output	ZHI	Reference supply setting terminal.	
13	VREF	Output	AVDD1/2	VREF voltage output pin.	
14	EIN	Input	—	E signal input pin.	
15	FIN	Input		F signal input pin.	
16	TEC	Output		TE signal LPF capacitor connection pin.	
17	TE	Output	—	TE signal output pin.	
18	TEIN	Input	—	TES signal generation TE signal input pin	
19	LDD	Output	—	Laser power control signal output pin.	
20	LDS	Input	—	Laser power control signal input pin.	
21	FDO	Output	ADAVDD/2	Focus control output pin. D/A output.	
22	TDO	Output	ADAVDD/2	Tracking control output pin. D/A output.	
23	SLDO	Output	ADAVDD/2	Thread control output pin. D/A output.	
24	SPDO	Output	ADAVDD/2	Spindle control output pin. D/A output.	
25	AVSS2	—	—	Analog GND pin 2. Must always be connected to 0V.	
26	AVDD2	—	—	Analog power supply pin 2.	
27	DVDD	—	—	Digital power supply pin.	
28*	DVSS	—	—	Digital GND pin 2. Must always be connected to 0V.	
29*	VPB	Output	H	Rough servo/phase control automatic switching monitor output pin.“H” for rough servo and “L” for phase servo.	
30*	DEFECT	Output	L	Defect signal output pin.	
31*	FSEQ	Output	L	Synchronization signal detection output pin. Outputs a high level when the Synchronization signal detection from the EFM signal and the internally generated Synchronization signal agree.	
32*	EFLG	Output	L	C1, C2 error correction monitor pin	
33*	FSX	Output	L	7.35kHz Synchronization signal output pin. CLV playback mode.	
34	CONT1	Input/Output	Input	General purpose I/O pin 1.	Controlled by command from the microprocessor. Any of these that are unused must be either set up as input pin ports and connected to 0V, or set up as output pin ports and left open.
35	CONT2	Input/Output	Input	General purpose I/O pin 2.	
36	CONT3	Input/Output	Input	General purpose I/O pin 3.	
37*	MONI1	Input/Output	Input	External deiemphasis setting pin, INternal signal monitor pin 1.Controlled by microprocessor.	
38*	MONI2	Output	L	Internal signal monitor pin 2.	
39*	DOUT	Output	L	Digital OUT output Pin. (EIAJ format)	
40	TEST	Input	L	Test input pin. Must always be connected to 0V.	
41	LVDD	—	—	Left channel D/A converter	L channel Power supply pin.
42	LCHO	Output	LVDD/2		L channel output supply pin.
43	LRVSS	—	—		LR channel GND pin. Must always be connected to 0V.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

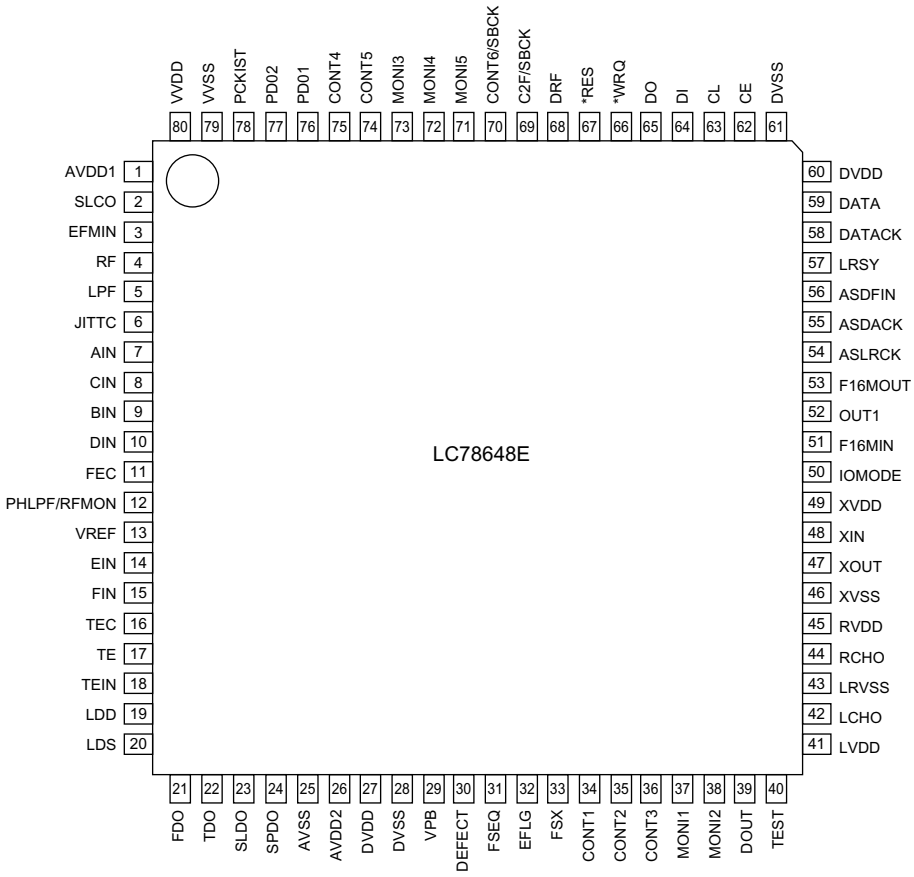
IC1 VHiLC78648E-1: CD Digital Signal Processor (LC78648E) (2/2)

Pin No.	Terminal Name	Input/Output	Setting in Reset	Function	
44	RCHO	Output	RVDD /2	Right channel D/A converter	R channel Power supply pin.
45	RVDD	—	—		R channel output supply pin.
46	XVSS	—	—	Digital GND pin. Must always be connected to 0V	
47	XOUT	Output	Oscillator	Crystal oscillator	Power supply for crystal oscillator. Connected for a 16.9344 MHz crystal oscillator pin.
48	XIN	Input	Oscillator		
49	XVDD	—	—	Digital power supply pin. Must always be connected to 0V	
50	IOMODE	Input	—	CONT4 to 6.MONI3~5, DRF, WRQB pin output mode switching input pin. ”L” setting: Normal output “H” setting: Nch open drain output	
51	F16MIN	Input	—	DF. DAC external clock input pin.	
52*	OUT1	Output	L	General-purpose output pin 1.	
53	16MOUT	Output	CLK Output	16.9344 MHz output port.	
54	ASLRCK	Input	—	Anti-shock	Left/Right clock input pin. (Must be connect to 0 V when unused.)
55	ASDACK	Input	—		Bit clock input pin. (Must be connect to 0 V when unused.)
56	ASDFIN	Input	—		Left/Right channel data input pin. (Must be connect to 0 V when unused.)
57	LRSK	Output	L	Digital data output	Left/Right channel data output pin.
58	DATACK	Output	L		Bit clock output pin.
59	DATA	Output	L		Left/Right clock output pin.
60	DVDD	—	—	Digital power supply pin.	
61	DVSS	—	—	Digital GND pin 2. Must always be connected to 0V.	
62	CE	Input	—	Microcomputer Interface	Chip enable signal input pin.
63	CL	Input	—		Data transfer clock input pin.
64	DI	Input	—		Data output pin.
65	DO	Output	(H)		Data output pin. (Try state output.)
66	WRQB	Output	L	Interruption signal output pin.	
67	RESB	Input	—	Reset input pin for LSI. This pin must be set LOW briefly after power is first applied.	
68	DRF	Output	L	Focus ON detection pin.	
69	C2F/SBCK	Input/Output	Input	Error flag monitor pin, or sub code read clock input pin.	Controlled by commands from the microprocessor.
70	CONT6/SBCK	Input/Output	Input	General-purpose I/O pin 6, or sub code read clock input pin.	Controlled by commands from the microprocessor. Any of these that are unused must be either set up as input pin ports and connected to 0V, or set up as output pin ports and left open.
71*	MONI5	Output	L	Internal signal monitor pin 5.	
72*	MONI4	Output	L	Internal signal monitor pin 4.	
73	MONI3	Output	L	Internal signal monitor pin 3.	
74	CONT5	Input/Output	Input	General purpose I/O pin 5.	Controlled by command from the microprocessor. Any of these that are unused must be either set up as input pin ports and connected to 0V, or set up as output pin ports and left open when unused.
75	CONT4	Input/Output	Input	General purpose I/O pin 4.	
76	PDO1	Output	—	PLL	Phase comparison output pin 1 to control built-in VCO.
77	PDO2	Output	—		Phase comparison output pin 2 to control built-in VCO.
78	PCKIST	Input	—		Resistor connection pin to set current for PDO1 and 02 outputs.
79	VVSS	—	—		Built-in VCO GND pin. Must always be connected to 0V.
80	VVDD	—	—		Built-in VCO power supply pin.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

The same potential must be supplied to all power supply pins, i, e., AVDD1, AVDD2, XVDD, DVDD, LVDD and RVDD)

IC1 VHiLC78648E-1: CD Digital Signal Processor(LC78648E)



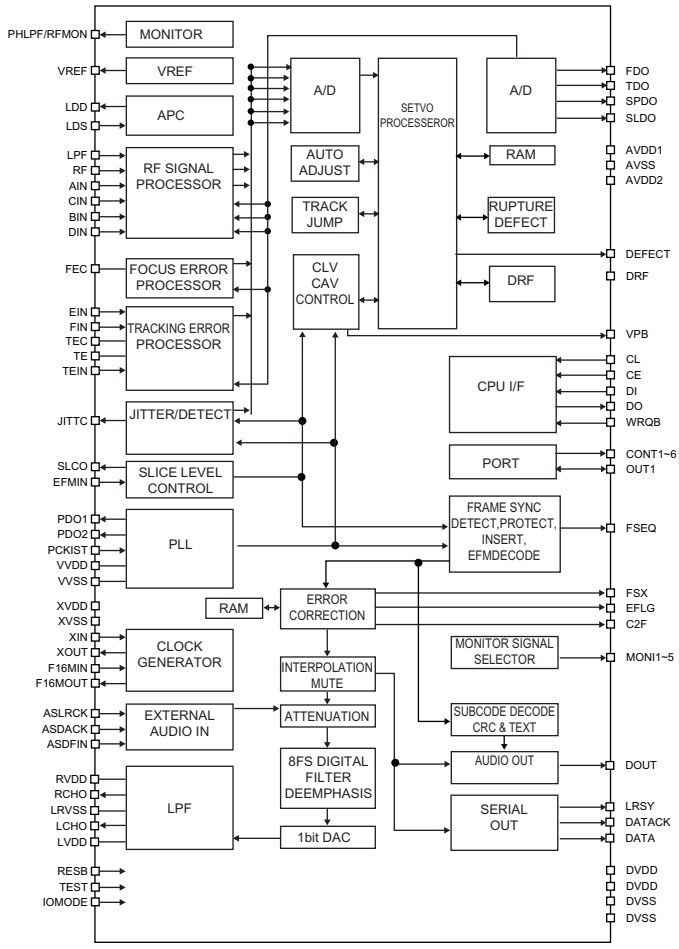


Figure 1 BLOCK DIAGRAM OF IC

IC2 VHILA6261//-1: Focus/Tracking/Spin/Sled Driver (LA6261)

Pin No.	Terminal Name	Function
1	VO3+	BTL Output pin (+) for channel 3.
2	VO3-	BTL Output pin (-) for channel 3.
3	VO2+	BTL Output pin (+) for channel 2.
4	VO2-	BTL Output pin (-) for channel 2.
5	VO1+	BTL Output pin (+) for channel 1.
6	VO1-	BTL Output pin (-) for channel 1.
7	PGND1	Power GND for channels 1,2,3 and 4 (BTL).
8	REGIN	Regulator pin (External PNP base).
9	PVCC1	Power for channels 1,2,3 and 4 (BTL). (SVCC short-crircuited)
10	REGOUT	Regulator pin (External PNP collector).
11	VIN1	Input pin for channel 1
12*	VIN1G	Input pin for channel 1 (for gain control)
13	VIN2	Input pin for channel 2
14*	VIN2G	Input pin for channel 2 (for gain control)
15	VIN3	Input pin for channel 3
16*	VIN3G	Input pin for channel 3 (for gain control)
17	VIN4	Input pin for channel 4
18	VIN4G	Input pin for channel 4 (for gain control)
19	FWD5	CH5 Output change pin (FWD). Logic input for bridge.
20	REV5	CH5 Output change pin (REV). Logic input for bridge.
21	VCONT5	Input pin for CH5 output voltage control
22	FWD6	CH6 Output change pin (FWD). Logic input for bridge.
23	REV6	CH6 Output change pin (REV). Logic input for bridge.
24	VCONT6	Input pin for CH5 output voltage control.
25	VREFIN	Reference voltage input pin.
26	SGND	Signal system GND
27	SVCC	Signal system power (PVCC1 short - circuited)
28	PVCC2	Power for channel 5 and 6 (H bridge).
29	MUTE	Input pin for BTL mute.
30	PGND2	Power GND for channels 5 and 6 (H bridge).
31	VO6+	H bridge Output pin (+) for channel 6.
32	VO6-	H bridge Output pin (-) for channel 6.
33	VO5+	H bridge Output pin (+) for channel 5.
34	VO5-	H bridge Output pin (-) for channel 5.
35	VO4+	BTL Output pin (+) for channel 4.
36	VO4-	BTL Output pin (-) for channel 4.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

* Set power system GND to the minimum potential together with SGND

* Short-circuit three pins of power system SVSS and PVCC1 externally before use.

IC2 VHILA6261//-1: Focus/Tracking/Spin/Sled Driver (LA6261)

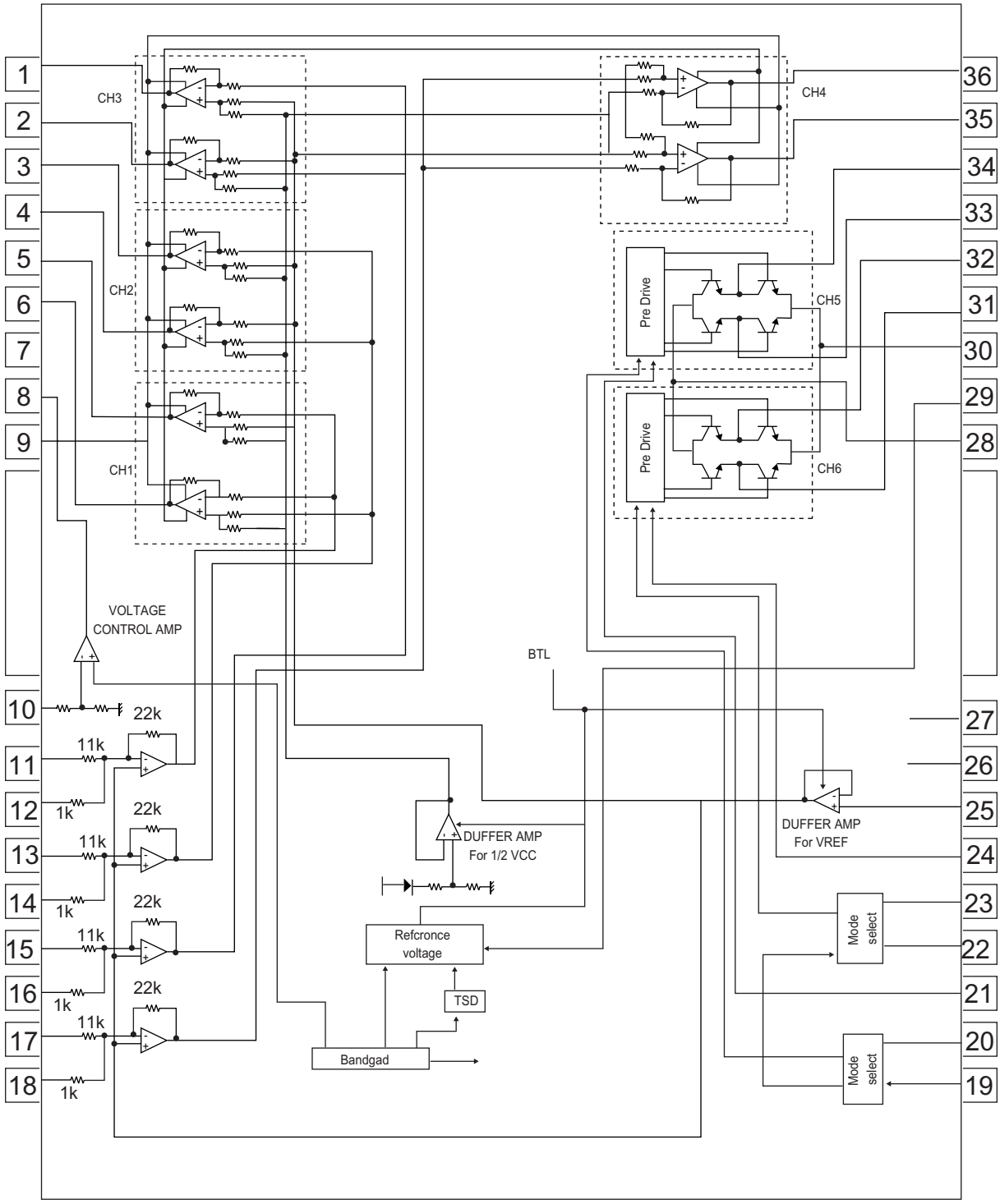


Figure 2 BLOCK DIAGRAM OF IC

IC601 VHiLC75341/-1: Audio Processor (LC75341)

Pin No.	Terminal Name	Function
1	DI	Serial data and clock input pin for control.
2	CE	Chip enable pin. Data written into an internal latch in a timing of "H" to "L". Each analog switch is activated. Data transfer enabled at "H" level.
3	VSS	Ground pin.
4	LOUT	Bass band filter comprising capacitor and resistor connection pin and bass/treble output pin.
5	LBASS	Bass band filter comprising capacitor and resistor connection pin.
6	LTRE	Treble band filter comprising capacitor and resistor connection pin.
7	LIN	Volume + equaliser output pin.
8	LSEL0	Input selector output pin.
9-12	L4-1	Input signal pin.

Pin No.	Terminal Name	Function
13-16	R1-4	Input signal pin.
17	RSEL0	Input selector output pin.
18	RIN	Volume + equaliser output pin
19	RTRE	Treble band filter comprising capacitor and resistor connection pin.
20	RBASS	Bass band filter comprising capacitor and resistor connection pin.
21	ROUT	Bass band filter comprising capacitor and resistor connection pin and bass/ treble output pin.
22	VREF	0.5x VDD voltage generation block for analog ground. Capacitor of several 10µF to be connected between VREF and AWSS (VSS) as a countermeasure against power ripple.
23	VDD	Supply pin
24	CLK	Serial data and clock input pin for control.

IC601 VHiLC75341/-1: Audio Processor (LC75341)

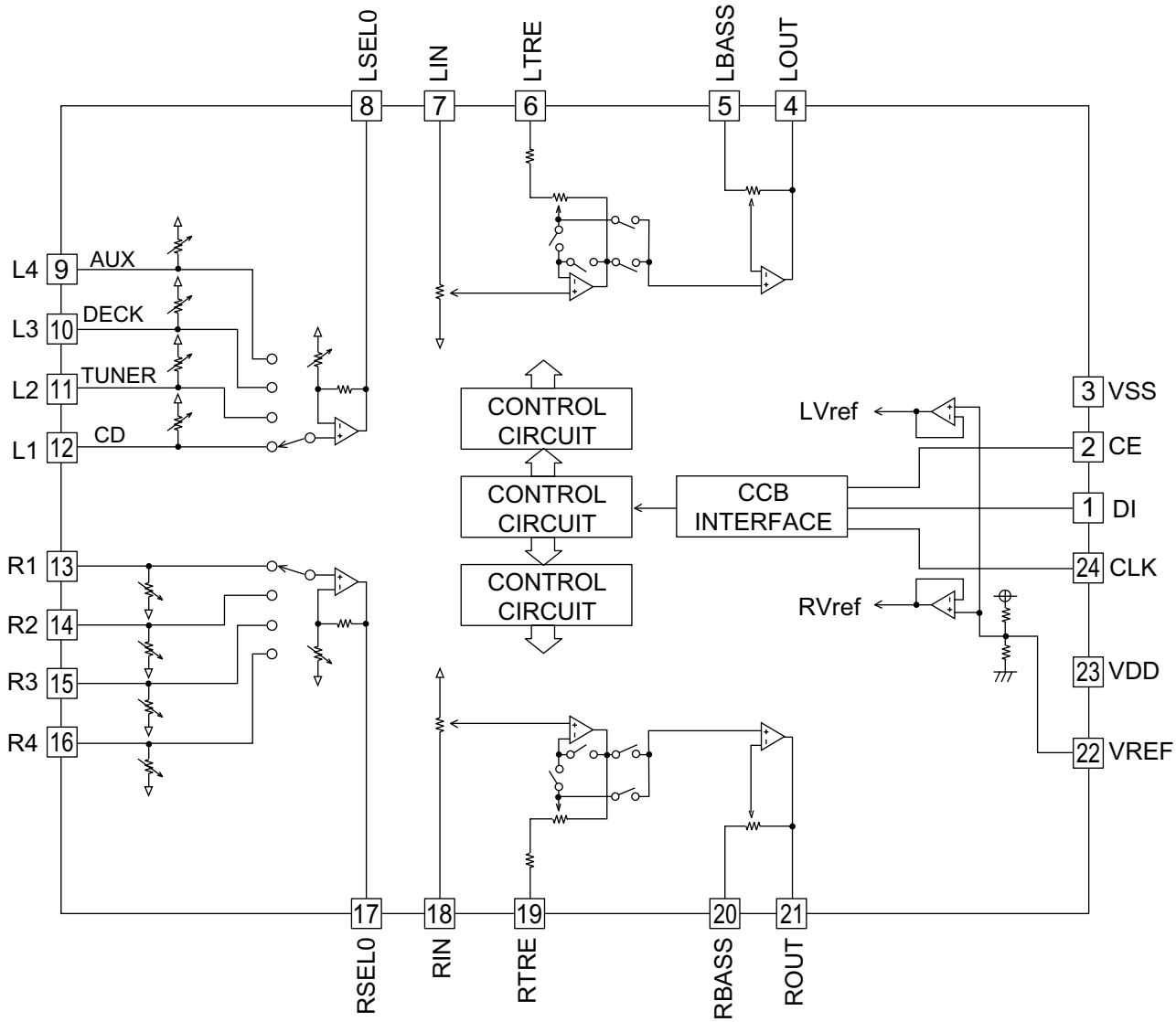


Figure 3 BLOCK DIAGRAM OF IC

IC701 RH-iXA003AWZZ: System Microcomputer (IXA003AW) (Serial No.31000001~402XXXXX) (1/2)

IC701 RH-iXA021AWZZ: System Microcomputer (IXA021AW) (Serial No.402XXXXX~) (1/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
1	VDD	VDD	Input	(+) Power supply 5V.
2	P37	-20dBATT	Output	-20dB Attenuator.
3	P36	T BIAS	Output	Tape record bias control.
4	P35	T_REC/PLAY	Output	Tape REC/PLAY control.
5*	P34	NO USE	Output	Open.
6	P33	CD RESOUT	Output	CD reset.
7	P32	CD_WRQ	Input	CD WRQ input.
8	P31	SUB CE	Output	MP3 Sub-micom CE.
9*	P30	ILLU LED	Output	FL edge light control.
10	RESET	RESET	Input	Reset Input.
11	X2	XOUT	Output	Main clock output 4.19MHz.
12	X1	XIN	Input	Main clock input 4.19MHz.
13	IC(VPP)	VPP	—	GND
14*	XT2	NO USE	—	Open
15	P04	CD_DRF	Input	CD DRF detect.
16	VDD	VDD	Input	(+) Power supply 5V.
17	P27	CLK	Output	Clock output.
18	P26	DI	Output	Data output.
19	P25	DO	Input	Data input.
20	P24	CE	Output	CE output.
21	P23	CD CE	Output	CD chip enable.
22	P22	CD CLK	Output	CD Clock.
23	P21	CD DI	Output	CD Data output.
24	P20	CD DO	Input	CD Data input.
25	AVSS	AVSS	—	Analog ground.
26	ANI7	T RUN PULS	Input	Tape Run Pulse detect.
27	ANI6	TUN SM	Input	Tuner signal meter.
28	ANI5	T_FP SW	Input	Tape Fool Proof A & B SW.
29	ANI4	PROTECT	Input	Power abnormal detect.
30	ANI3	VOL JOG	Input	Volume jog input.
31-33	ANI2-ANI0	KEY 2-KEY 0	Input	Key input.
34	AVDD	AVDD	Input	Analog power supply 5V.
35	AVREF	AVREF	Input	Analog reference voltage 5V.
36	INTP3	P_IN	Input	Power failure detect.
37	P02	PHOTO	Input	5-Changer Photo SW.
38	INTP1	SP DET	Input	Speaker abnormal detect.
39	INTP0	REMOCON	Input	Remocon input.
40	VSS	VSS	—	Ground voltage.
41	P74	S MUTE	Output	System mute control.
42	P73	TIMER LED	Output	Timer LED.
43	P72	T_SOL	Output	Tape solenoid control.
44	P71	T_MOTOR	Output	Tape motor control.
45	P70	VOL LED	Output	Volume LED.
46	VDD	VDD	Input	(+) Power supply 5V.
47	P127	SP RLY	Output	Speaker relay control.
48	P126	AC RLY	Output	AC relay control.
49	P125	RDS RST	Output	RDS reset.
50	P124	RDS READY	Input	RDS ready.
51	P123	RDS RDDA	Input	RDS data.
52	P122	RDS RDCL	Output	RDS clock.
53	P121	TRAY SW2	Input	5-Changer Tray SW2.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC701 RH-iXA003AWZZ: System Microcomputer (IXA003AW) (Serial No.31000001~402XXXXX) (2/2)

IC701 RH-iXA021AWZZ: System Microcomputer (IXA021AW) (Serial No.402XXXXX~) (2/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
54	P120	TRAY SW1	Input	5-Changer Tray SW1.
55	P117	DISC SW	Input	5-Changer Disc SW.
56	P116	CLAMP SW	Input	5-Changer Clamp SW.
57	P115	DIST	Input	Destination input.
58	FIP41	S30	Output	FL segment driver.
59	FIP40	S29	Output	FL segment driver.
60	FIP39	S28	Output	FL segment driver.
61	FIP38	S27	Output	FL segment driver.
62	FIP37	S26	Output	FL segment driver.
63	FIP36	S25	Output	FL segment driver.
64	FIP35	S24	Output	FL segment driver.
65	FIP34	S23	Output	FL segment driver.
66	FIP33	S22	Output	FL segment driver.
67	FIP32	S21	Output	FL segment driver.
68	FIP31	S20	Output	FL segment driver.
69	P101/FIP30	S19/DIST0	Input	FL segment driver/Destination input.
70	P100/FIP29	S18/DIST1	Output	FL segment driver/Destination input.
71	P97/FIP28	S17/DIST2	Output	FL segment driver/Destination input.
72	P96/FIP27	S16/DIST3	Output	FL segment driver/Destination input.
73-78	FIP26-FIP21	S15-S10	Output	FL segment driver.
79	VLOAD	VLOAD	Input	VLOAD -35V
80-88	FIP20-FIP12	S9-S1	Output	FL segment driver.
89-100	FIP11-FIP0	G12-G1	Output	FL grid driver.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC701 RH-iXA003AWZZ: System Microcomputer (IXA003AW) (Serial No.31000001~402XXXXX)

IC701 RH-iXA021AWZZ: System Microcomputer (IXA021AW) (Serial No.402XXXXX~)

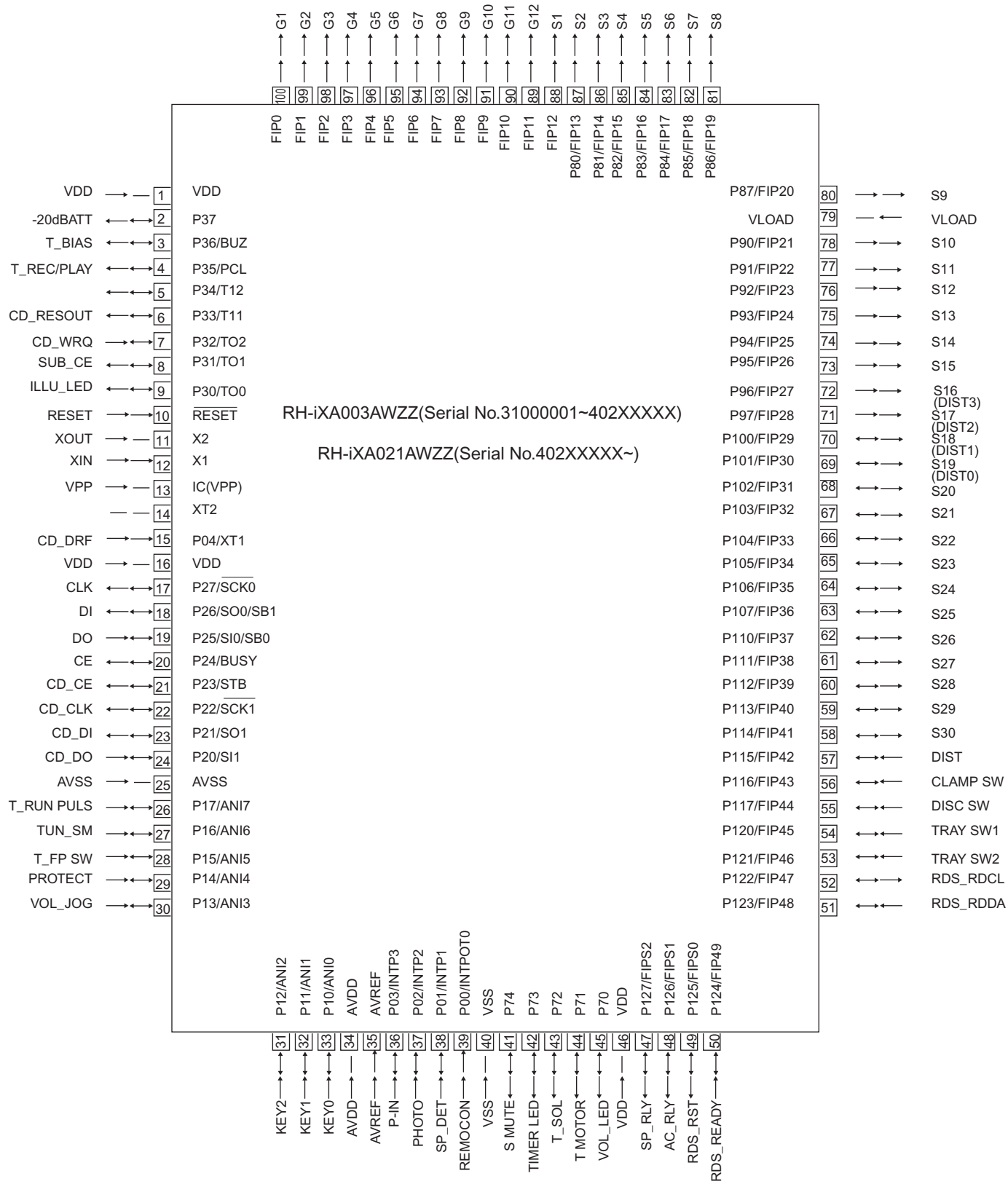


Figure 4 BLOCK DIAGRAM OF IC

IC851 VHIAN80T53/-1: Multi Regulator (AN80T53)

Pin No.	Terminal Name	Function
1	REG4 Output	5.1V power supply with a minimum peak out current of 1200mA.
2	REG3 Output	13V power supply with a minimum peak out current of 1350mA.
3	VCC	Connected to Power supplies.
4	GND	Connected to the IC substrate.
5	MODE 1	REG1, REG2,REG3 and REG4 outputs are turned ON when this pin is 5V.
6	REG2 Output	10V power supply with a minimum peak out current of 800mA.
7	REG1 Output	8.5V power supply with a minimum peak out current of 700mA.

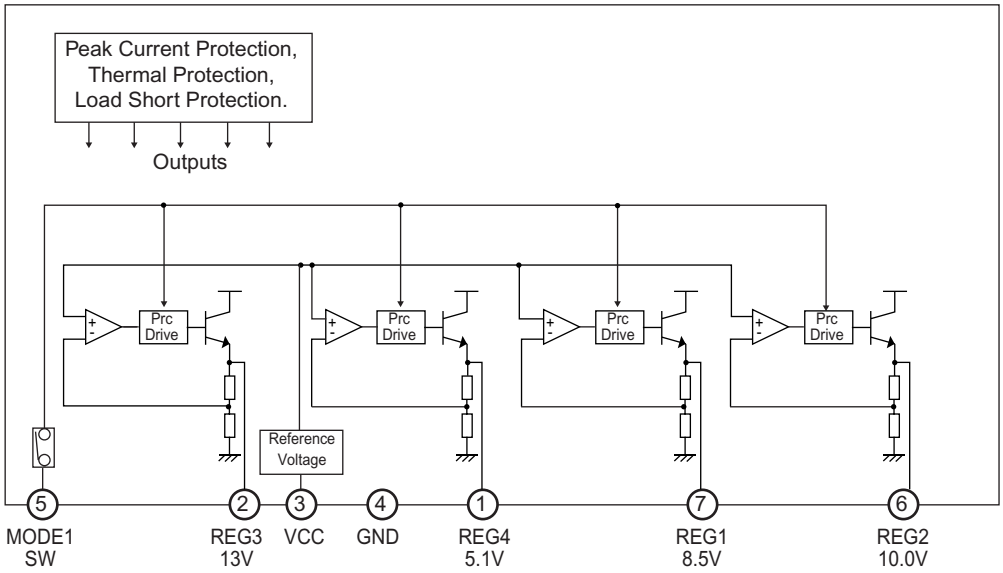
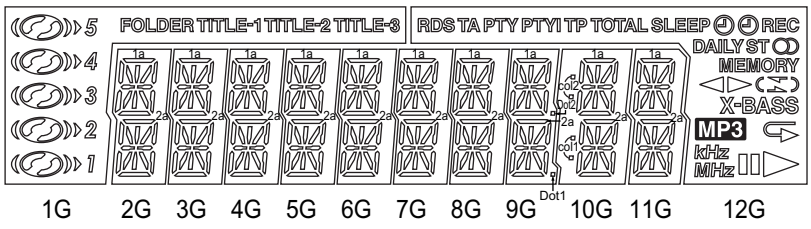


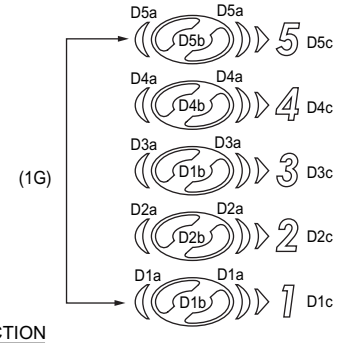
Figure 5 BLOCK DIAGRAM OF IC

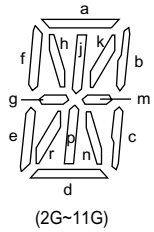
[2] FL DISPLAY

FL701 VVKNA12MM44-1

GRID ASSIGNMENT







ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G
P1	FOLDER	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a	
P2	TITLE-1	1b	1b	1b	1b	1b	1b	1b	1b	1b	1b	
P3	TITLE-2	1k	1k	1k	1k	1k	1k	1k	1k	1k	1k	TOTAL
P4	TITLE-3	1j	1j	1j	1j	1j	1j	1j	1j	1j	1j	RDS
P5	5	1h	1h	1h	1h	1h	1h	1h	1h	1h	1h	TA
P6	D5-a	1f	1f	1f	1f	1f	1f	1f	1f	1f	1f	PTY
P7	D5-b	1m	1m	1m	1m	1m	1m	1m	1m	1m	1m	PTYI
P8	D5-c	1d	1d	1d	1d	1d	1d	1d	1d	1d	1d	TP
P9	4	1g	1g	1g	1g	1g	1g	1g	1g	1g	1g	SLEEP
P10	D4-a	1p	1p	1p	1p	1p	1p	1p	1p	1p	1p	DAILY
P11	D4-b	1e	1e	1e	1e	1e	1e	1e	1e	1e	1e	(L)
P12	D4-c	1n	1n	1n	1n	1n	1n	1n	1n	1n	1n	(R)
P13	3	1r	1r	1r	1r	1r	1r	1r	1r	1r	1r	REC
P14	D3-a	1c	1c	1c	1c	1c	1c	1c	1c	1c	1c	ST
P15	D3-b	2a	2a	2a	2a	2a	2a	2a	2a	2a	2a	
P16	D3-c	2b	2b	2b	2b	2b	2b	2b	2b	2b	2b	
P17	2	2k	2k	2k	2k	2k	2k	2k	2k	2k	2k	
P18	D2-a	2j	2j	2j	2j	2j	2j	2j	2j	2j	2j	(
P19	D2-b	2h	2h	2h	2h	2h	2h	2h	2h	2h	2h	
P20	D2-c	2f	2f	2f	2f	2f	2f	2f	2f	2f	2f	)
P21	1	2m	2m	2m	2m	2m	2m	2m	2m	2m	2m	MEMORY
P22	D1-a	2d	2d	2d	2d	2d	2d	2d	2d	2d	2d	
P23	D1-b	2g	2g	2g	2g	2g	2g	2g	2g	2g	2g	(II)
P24	D1-c	2p	2p	2p	2p	2p	2p	2p	2p	2p	2p	kHz
P25		2e	2e	2e	2e	2e	2e	2e	2e	2e	2e	MHz
P26		2n	2n	2n	2n	2n	2n	2n	2n	2n	2n	
P27		2r	2r	2r	2r	2r	2r	2r	2r	2r	2r	MP3
P28		2c	2c	2c	2c	2c	2c	2c	2c	2c	2c	X-BASS
P29									Dot1	Col1		
P30									Dot2	Col2		

OUTER DIMENSIONS

PIN CONNECTION

PIN NO.	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
CONNECTION	F2	F2	NP	NP	P30	P29	P28	P27	P26	P25	P24	P23	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9

PIN NO.	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	P8	P7	P6	P5	P4	P3	P2	P1	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	NX	NX	2G	1G	NP	F1	F1

SHARP PARTS GUIDE

MICRO COMPONENT SYSTEM

MODEL XL-HP434H

XL- HP434H Micro Component System consisting of XL- HP434H (main unit) and CP- HP434H (speaker system).

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK..... Ceramic type
VCT ..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN..... Cylindrical type (without lead wire)
VC • • TV..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN..... Cylindrical type (without lead wire)
VR • • TV..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
INTEGRATED CIRCUITS				
IC1	VHILC78648E-1	J	AW	CD Digital Signal Proscessor, LC78648E
IC2	VHILA6261//-1	J	AN	Focus/Tracking/Spin/Sled Driver, LA6261
IC3	VHILC78683E-1	J	BH	MP3 Decoder,LC78683E
IC4	VHIL8316V35-1	J		D-RAM,L8316V35
IC5	RH-IXA006AWZZ	J	AT	Microcomputer,IXA006AW
IC6	VHISI3033LUS1	J	AG	Regulator 3.3V,SI3033LUS
IC101	VHIAN7345K/-1	J	AM	Playback and Record/Playback Amp.,AN7345K
IC302	VHILC72131/-1	J	AP	PLL (Tuner),LC72131
IC303	VHILA1832S/-1	J	AN	FM IF Det./FM Mpx./AM IF, LA1832S
IC601	VHILC75341/-1	J	AM	Audio Processor,LC75341
IC701	RH-IXA003AWZZ	J	AX	System Microcomputer, IXA003AW (Serial No.31000001~402XXXXX)
IC701	RH-IXA021AWZZ	J		System Microcomputer, IXA021AW (Serial No.402XXXXX~)
IC851	VHIAN80T53/-1	J	AL	Multi Regulator,AN80T53
IC854	VHIAN78L05/-1	J	AE	Voltage Regulator,AN78L05
IC901	VHISTK43207-1	J	AV	Power Amp.,STK432-070
ICT21	VHILC72723/-1	J	AR	RDS Decorder,LC72723
TRANSISTORS				
Q1	VSKTA1504Y/-1	J	AB	Silicon,PNP,KTA1504 Y
Q2	VSKTA1271Y/-1	J	AC	Silicon,PNP,KTA1271 Y
Q3~5	VS2SD601AR/-1	J	AC	Silicon,NPN,2SD601 AR
Q101~104	VSKTC3200GR-1	J	AC	Silicon,NPN,KTC3200 GR
Q105~108	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
Q109	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
Q110	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q111	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q112	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
Q113,114	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q301	VS2SC380-O/-1	J	AC	Silicon,NPN,2SC380 O
Q360	VSKTA1504GR-1	J	AB	Silicon,PNP,KTA1504 GR
Q601~604	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
Q701	VSKTA1273Y/-1	J	AE	Silicon,PNP,KTA1273 Y
Q702	VSKTA1271Y/-1	J	AC	Silicon,PNP,KTA1271 Y
Q703	VSKRC102S//-1	J	AB	Digital,NPN,KRC102 S
Q711	VSKRA102S//-1	J	AB	Digital,PNP,KRA102 S
Q712	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q713	VSKRA107S//-1	J	AB	Digital,NPN,KRA107 S
Q714	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q715	VSKRA107S//-1	J	AB	Digital,NPN,KRA107 S
Q719	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q801	VSKTA1274Y/-1	J	AE	Silicon,PNP,KTA1274 Y
Q841	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q851	VSKRC104S//-1	J	AC	Digital,NPN,KRC104 S
Q901~905	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
Q906	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
QT21	VSKTC3875GR-1	J	AB	Silicon,NPN,KTC3875 GR
DIODES				
D1	VHDKDS184//-1	J	AB	Silicon,KDS184
D301,302	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D701	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D705~709	VHDMA111///-1	J	AC	Silicon,MA111
D711,712	VHDMA111///-1	J	AC	Silicon,MA111
D802	VHDD5SBA60F-1	J	AH	Silicon,D5SBA60F
D803,804	VHDRL204F//-1	J	AC	Silicon,RL204F
D805,806	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D842~845	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D846	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D853	VHD1N4004S/-1	J	AB	Silicon,1N4004S
D856	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D860~863	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D865	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D905~907	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
D911,912	VHDDS1SS133-1	J	AB	Silicon,DS1SS133
LED701	VHP304VT2H3-1	J	AC	LED,Red,304VT2H3
LED708	VHPA304BC2H-1	J	AK	LED,Blue,A304BC2H
VD301	VHCSVC347S/-1	J	AG	Variable Capacitance,SVC347S
ZD1	VHEMA8033//-1	J	AC	Zener,3.3V,MA8033

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
ZD351	VHEDZ5R1BSB-1	J	AC	Zener,5.1V,DZ5.1BSB
ZD801	VHEDZ6R2BSA-1	J	AB	Zener,6.2V,DZ6.2BSA
ZD802	VHEDZ6R8BSA-1	J	AC	Zener,6.8V,DZ6.8BSA
ZD803	VHEDZ300BSB-1	J	AB	Zener,30V,DZ300BSB
ZD804	VHEDZ6R2BSA-1	J	AB	Zener,6.2V,DZ6.2BSA
FILTERS				
CF301,302	RFILF0072AFZZ	J	AG	FM IF
CF351	RFILF0003AWZZ	J	AK	FM IF
CF352	RFILA0009AWZZ	J	AE	AM IF
TRANSFORMERS				
⚠ PT801	RTRNP0507AWZZ	J	BB	Power (Main)
⚠ PT841	RTRNP0313AWZZ	J	AN	Power (Sub)
T303	RCILA0052AWZZ	J	AE	AM Antenna
T306	RCILB0067AWZZ	J	AD	AM OSC
T351	RCILI0019AWZZ	J	AD	AM IF
COILS				
L1	RCILC0011AWZZ	J	AD	0.82 µH
L2,3	RCILC0012AWZZ	J	AD	2.2 µH
L103	VP-MK331K0000	J	AB	330 µH,Choke
L341	RBLN-0002AWZZ	J	AE	Balun
L342	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L351,352	VP-DH101K0000	J	AB	100 µH,Choke
L354	RFILL0001AWZZ	J	AE	Low Pass Filter
L701	VP-DH101K0000	J	AB	100 µH,Choke
L702	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
⚠ L841	RCILZ0022AWZZ	J	AG	Line Filter
L901,902	RCILZ0137AFZZ	J	AA	0.29 µH
L903	VP-DH2R2K0000	J	AB	2.2 µH,Peaking
L920,921	RCILZ0137AFZZ	J	AA	0.29 µH
LT21,22	VP-XH2R2K0000	J	AB	2.2 µH,Choke
VIBRATORS				
X351	92LCRSTL1425A	J	AF	Crystal,456 kHz
X352	RCRSP0019AWZZ	J	AF	Crystal,4.5 MHz
XL1	RCRSP0020AWZZ	J	AG	Crystal,16.9344 MHz
XL2	RCRM-0043AWZZ	J	AB	Ceramic,4.19 MHz
XL700	RCRSP0003AWZZ	J	AH	Crystal,4.19403 MHz
XT21	RCRSP0018AWZZ	J	AG	Crystal,4.332 MHz
CAPACITORS				
C1	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C2	VCKYCY1CB103K	J	AA	0.01 µF,16V
C3	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C4	VCKYCY1HB102K	J	AA	0.001 µF,50V
C5	VCKYCY1CB473K	J	AA	0.047 µF,16V
C6	VCKYCY1CB103K	J	AA	0.01 µF,16V
C8	VCKYCY1HB272K	J	AA	0.0027 µF,50V
C9	RC-EZ0004AWZZ	J	AD	3.3 µF,16V,Electrolytic
C10	VCKYCY1CB104K	J	AB	0.1 µF,16V
C11	VCKYCY1CB563K	J	AB	0.056 µF,16V
C12	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C13	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C14	VCEAZA1AW476M	J	AB	47 µF,10V,Electrolytic
C17	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C18	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C20	VCEAZA0JW337M	J	AC	330 µF,6.3V,Electrolytic
C21,22	VCEAZA1EW106M	J	AB	10 µF,25V,Electrolytic
C23,24	VCQYKA1HM152K	J	AB	0.0015 µF,50V,Mylar
C25	VCKYCY1CB103K	J	AA	0.01 µF,16V
C26	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C27,28	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C29	VCKYCY1HB102K	J	AA	0.001 µF,50V
C30	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C31	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C32	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C33	VCKYCY1CB563K	J	AB	0.056 µF,16V
C34	VCKYCY1CB103K	J	AA	0.01 µF,16V
C35	VCKYCY1CB473K	J	AA	0.047 µF,16V
C36	VCKYCY1CF224Z	J	AB	0.22 µF,16V
C37	VCKYCY1CB104K	J	AB	0.1 µF,16V
C38	VCKYCY1CB103K	J	AA	0.01 µF,16V
C39	VCKYCY1CB104K	J	AB	0.1 µF,16V

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C41	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C42	VCCCCY1HH330J	J	AA	33 pF (CH),50V
C44	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C46,47	VCKYCY1CB103K	J	AA	0.01 µF,16V
C48	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C49	VCKYCY1HB102K	J	AA	0.001 µF,50V
C50	VCEAZA1AW476M	J	AB	47 µF,10V,Electrolytic
C51~53	VCKYCY1CB103K	J	AA	0.01 µF,16V
C56,57	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C58	VCEAZA1AW476M	J	AB	47 µF,10V,Electrolytic
C59	VCKYCY1CB104K	J	AB	0.1 µF,16V
C60	VCKYCY1HB102K	J	AA	0.001 µF,50V
C61	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C62	VCKYCY1CB103K	J	AA	0.01 µF,16V
C63	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C64	VCCCCY1HH330J	J	AA	33 pF (CH),50V
C65	VCEAZA1AW476M	J	AB	47 µF,10V,Electrolytic
C66	VCKYCY1CB103K	J	AA	0.01 µF,16V
C68	VCKYCY1CB103K	J	AA	0.01 µF,16V
C69	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C70	VCKYCY1CB103K	J	AA	0.01 µF,16V
C71	VCKYCY1CB104K	J	AB	0.1 µF,16V
C72,73	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C74,75	VCKYCY1HB102K	J	AA	0.001 µF,50V
C76	VCKYCY1CB103K	J	AA	0.01 µF,16V
C82	VCKYCY1HB332K	J	AA	0.0033 µF,50V
C83	VCKYCY1HB102K	J	AA	0.001 µF,50V
C84	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C85,86	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C103	VCKYBT1HB181K	J	AA	180 pF,50V
C104	VCCCCY1HH181J	J	AA	180 pF (CH),50V
C105,106	VCKYCY1HB152K	J	AA	0.0015 µF,50V
C109,110	VCKYCY1HB331K	J	AA	330 pF,50V
C111,112	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C113,114	VCTYPA1EX333K	J	AA	0.033 µF,25V
C115,116	VCKYCY1HB561K	J	AA	560 pF,50V
C117,118	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C121	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C123,124	VCKYCY1HB271K	J	AA	270 pF,50V
C125,126	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C127,128	VCTYPA1CX223K	J	AA	0.022 µF,16V
C129,130	VCKYCY1HB332K	J	AA	0.0033 µF,50V
C131,132	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C133	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C134	VCEAZA1AW227M	J	AC	220 µF,10V,Electrolytic
C135	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C137	VCQYKA1HM473K	J	AB	0.047 µF,50V,Mylar
C138	VCQPKA2AA822J	J	AA	0.0082 µF,100V,Polypropylene
C139	VCQYKA1HM393K	J	AB	0.039 µF,50V,Mylar
C140	VCEAZA1EW476M	J	AB	47 µF,25V,Electrolytic
C141	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C143	VCEAZA1HW335M	J	AB	3.3 µF,50V,Electrolytic
C302	VCKYCY1HB102K	J	AA	0.001 µF,50V
C321	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C323	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C330	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C331	VCKYCY1EF473Z	J	AB	0.047 µF,25V
C332	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C334	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C335	VCKYCY1HB561K	J	AA	560 pF,50V
C341,342	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C345~347	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C348	VCKYCY1HB103K	J	AA	0.01 µF,50V
C350,351	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C352	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C353,354	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C355	VCCCCY1HH220J	J	AA	22 pF (CH),50V
C356	VCKYCY1HB102K	J	AA	0.001 µF,50V
C357	VCEAZA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C358	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C359	VCTYBT1EF223Z	J	AA	0.022 µF,25V
C361	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C362	VCEAZA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C363	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C364	VCEAZA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C365	VCTYPA1CX223K	J	AA	0.022 µF,16V
C366	VCKYCY1HB102K	J	AA	0.001 µF,50V
C367,368	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C369	VCCCCY1HH270J	J	AA	27 pF (CH),50V
C370~372	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C373,374	VCTYPA1CX153K	J	AA	0.015 µF,16V
C380	VCEAZA1HW106M	J	AB	10 µF,50V,Electrolytic

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
C381	VCCCCY1HH120J	J	AA	12 pF (CH),50V
C382	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C383	VCKYBT1HB101K	J	AA	100 pF,50V
C384	VCKYCY1HB102K	J	AA	0.001 µF,50V
C385	VCKYCY1HB103K	J	AA	0.01 µF,50V
C386	VCKYCY1HB331K	J	AA	330 pF,50V
C387	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C388	VCKYCY1HB102K	J	AA	0.001 µF,50V
C391	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C392	VCKYCY1HB102K	J	AA	0.001 µF,50V
C393	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C394	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C395	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C396	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C397	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C398	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C399	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C601	VCEAZA1CW227M	J	AC	220 µF,16V,Electrolytic
C602	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C603	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C605~608	VCFYFA1HA154J	J	AB	0.15 µF,50V,Thin Film
C609	RC-EZY105AF1H	J	AB	1 µF,50V,Electrolytic
C610	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C611,612	VCKYCY1HB222K	J	AA	0.0022 µF,50V
C613,614	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C615,616	VCEAZA1HW475M	J	AB	4.7 µF,50V,Electrolytic
C617~624	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C625,626	VCKYCY1HB222K	J	AA	0.0022 µF,50V
C639	VCEAZA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C640	VCEAZA1HW226M	J	AB	22 µF,50V,Electrolytic
C651~653	VCKYCY1HB221K	J	AA	220 pF,50V
C690,691	VCKYCY1HB391K	J	AA	390 pF,50V
C700	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C701	VCEAZA1AW227M	J	AC	220 µF,10V,Electrolytic
C702	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C703	VCCCCY1HH150J	J	AA	15 pF (CH),50V
C704	VCCCCY1HH180J	J	AA	18 pF (CH),50V
C705	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C707	RC-EZD105AF1H	J	AB	1 µF,50V,Electrolytic
C710,711	VCCCCY1HH101J	J	AA	100 pF (CH),50V
C716,717	VCKYCY1HB102K	J	AA	0.001 µF,50V
C718	VCKYCY1HB103K	J	AA	0.01 µF,50V
C719	RC-EZD335AF1H	J	AB	3.3 µF,50V,Electrolytic
C720	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C721	RC-EZD476AF1C	J	AC	47 µF,16V,Electrolytic
C722	VCCCCY1HH151J	J	AA	150 pF (CH),50V
C723	VCKYCY1EF473Z	J	AB	0.047 µF,25V
C801	VCEAZA1VW107M	J	AC	100 µF,35V,Electrolytic
C802,803	VCEAZA1HW476M	J	AB	47 µF,50V,Electrolytic
C804	VCEAZA1JW227M	J	AD	220 µF,63V,Electrolytic
C805	VCEAZA2AW226M	J	AC	22 µF,100V,Electrolytic
C806~809	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar
C841	VCEAZA0JW108M	J	AC	1000 µF,6.3V,Electrolytic
C842	VCEAZA1VW477M	J	AD	470 µF,35V,Electrolytic
C843	VCQYKA1HM473K	J	AB	0.047 µF,50V,Mylar
⚠ C844	RC-KZ002LAWZZ	J	AC	0.0047 µF,250V,Ceramic
C854	VCEAZA1EW227M	J	AC	220 µF,25V,Electrolytic
C855	VCEAZA1HW106M	J	AB	10 µF,50V,Electrolytic
C856	VCEAZW1EW338M	J	AG	3300 µF,25V,Electrolytic
C859	VCEAZA1EW226M	J	AB	22 µF,25V,Electrolytic
C861	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C864,865	VCEAZA1EW226M	J	AB	22 µF,25V,Electrolytic
C874	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar
C901,902	VCEAZA1HW224M	J	AB	0.22 µF,50V,Electrolytic
C903,904	VCKYCY1HB102K	J	AA	0.001 µF,50V
C905,906	VCCCCY1HH3R0C	J	AA	3 pF (CH),50V
C907,908	VCKYCY1HB471K	J	AA	470 pF,50V
C909,910	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C911,912	VCKYCY1EF223Z	J	AB	0.022 µF,25V
C913,914	VCEAZA1JW107M	J	AC	100 µF,63V,Electrolytic
C915,916	VCEAZA1JW106M	J	AB	10 µF,63V,Electrolytic
C921,922	RC-EZ0112AWZZ	J	AH	2200 µF,56V,Electrolytic
C925	VCEAZA1HW476M	J	AB	47 µF,50V,Electrolytic
C926~929	VCFYFA1HA224J	J	AC	0.22 µF,50V,Thin Film
C931	VCEAZA1HW106M	J	AB	10 µF,50V,Electrolytic
C932	VCFYFA1HA224J	J	AC	0.22 µF,50V,Thin Film
C934~941	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C942,943	VCKYPA1HB102K	J	AA	0.001 µF,50V
C946	VCEAZA1HW104M	J	AB	0.1 µF,50V,Electrolytic
C950,951	VCKYPA1HB122K	J	AA	0.0012 µF,50V
C952,953	VCKYPA1HB102K	J	AA	0.001 µF,50V
C954,955	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
C960	VCEAZA1EW335M	J	AB	3.3 µF,25V,Electrolytic
C961	VCKYCY1HB102K	J	AA	0.001 µF,50V
CT21	VCEAZA1AW476M	J	AB	47 µF,10V,Electrolytic
CT22	VCKYCY1EF223Z	J	AB	0.022 µF,25V
CT23	VCCCCY1HH220J	J	AA	22 pF (CH),50V
CT25	VCCCCY1HH220J	J	AA	22 pF (CH),50V
CT26	VCKYCY1HB561K	J	AA	560 pF,50V
CT27~30	VCKYCY1EF223Z	J	AB	0.022 µF,25V
CT31	VCEAZA1AW476M	J	AB	47 µF,10V,Electrolytic
CT32	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic

RESISTORS

	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R05	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R06	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R1,2	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R3	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R4,5	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R6	VRS-CY1JB333J	J	AA	33 kohms,1/16W
R7	VRS-CY1JB470J	J	AA	47 ohms,1/16W
R8	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R9	VRS-CY1JB100J	J	AA	10 ohm,1/16W
R10	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R12	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R13	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R14~16	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R17	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R18,19	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R20~22	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R23,24	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R25,26	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R27	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R28	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R29	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R30~37	VRS-CY1JB391J	J	AA	390 ohms,1/16W
R38	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R39	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R40	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R41~48	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R49	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R50	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R52	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R54	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R55	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R56	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R57,58	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R59	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R60	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R61	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R62	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R63	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R64	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R65	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R66,67	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R68	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R69,70	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R71	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R72	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R73	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R74	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R75	VRS-CY1JB221J	J	AA	220 ohms,1/16W
R76~78	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R79	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R80	VRS-CY1JB820J	J	AA	82 ohms,1/16W
R81	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R82	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R83	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R84	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R85	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R86~89	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R90	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R91,92	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R93	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R94,95	VRD-ST2EE1R0J	J	AA	1 ohm,1/4W
R96	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R97	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R98	VRS-CY1JB391J	J	AA	390 ohms,1/16W
R99	VRS-CY1JB225J	J	AA	2.2 Mohms,1/16W
R103,104	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R105,106	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R107,108	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R109,110	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R111	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R112	VRS-CY1JB153J	J	AA	15 kohms,1/16W
R113	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R114	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R115,116	VRD-ST2CD560J	J	AA	56 ohms,1/6W
R117,118	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R119,120	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
R121,122	VRS-CY1JB123J	J	AA	12 kohms,1/16W
R123,124	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R126,127	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R128,129	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R130,131	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R132,133	VRS-CY1JB101J	J	AA	100 ohm,1/16W
R134,135	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R136,137	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R138	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R139	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R140	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R141	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R142	VRD-RT2HD820J	J	AA	82 ohms,1/2W
R143	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R144	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R145	VRD-ST2CD4R7J	J	AA	4.7 ohms,1/6W
R146,147	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R148	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R149	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R150	VRS-CY1JB683J	J	AA	68 kohms,1/16W
R158	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R301	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R323	VRS-CY1JB683J	J	AA	68 kohms,1/16W
R336	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R344	VRS-CY1JB471J	J	AA	470 ohms,1/16W
R345	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R346	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R347	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R348	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R349	VRS-CY1JB330J	J	AA	33 ohms,1/16W
R350	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R351	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R352	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R353	VRS-CY1JB271J	J	AA	270 ohms,1/16W
R355	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R356	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R357	VRS-CY1JB474J	J	AA	470 kohms,1/16W
R358	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R359	VRS-CY1JB182J	J	AA	1.8 kohms,1/16W
R360	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R365	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R369	VRS-CY1JB150J	J	AB	15 ohms,1/16W
R370	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R372~374	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R376	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R377	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R378	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R379	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R380	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
R381	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R382	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R383	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R384	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R385	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R386	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R387	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R388	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
R391,392	VRD-RT2HD221J	J	AA	220 ohms,1/2W
R393	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R395	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R399	VRS-CY1JB330J	J	AA	33 ohms,1/16W
R561	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R562~565	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R566	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R573	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R601~603	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R604,605	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R606,607	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R608,609	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R610,611	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R612,613	VRS-CY1JB391J	J	AA	390 ohms,1/16W
R614,615	VRS-CY1JB332J	J	AA	3.3 kohms,1/16W
R616,617	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R618	VRD-ST2CD331J	J	AA	330 ohms,1/6W
R619	VRS-CY1JB331J	J	AA	330 ohms,1/16W
R620,621	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R641,642	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R643,644	VRS-CY1JB223J	J	AA	22 kohms,1/16W
R645	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R690,691	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W
R692,693	VRS-CY1JB393J	J	AA	39 kohms,1/16W
R700~702	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R704~706	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R708~713	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R714~717	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R718	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R719,720	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R721	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R723~725	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R726,727	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R728	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R729	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R730	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R731	VRS-CY1JB681J	J	AA	680 ohms,1/16W
R732	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
R733	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R734	VRD-ST2CD561J	J	AA	560 ohms,1/6W
R735~737	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R738	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R739,740	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R746,747	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R755	VRD-ST2CD681J	J	AA	680 ohms,1/6W
R761	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R763	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R765	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R766	VRD-ST2EE1R5J	J	AA	1.5 ohms,1/4W
R770	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R771	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R772	VRS-CY1JB151J	J	AA	150 ohms,1/16W
R773	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R774	VRS-CY1JB822J	J	AA	8.2 kohms,1/16W
R775,776	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R779	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R780	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
R781,782	VRS-CY1JB472J	J	AA	4.7 kohms,1/16W
R783	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R784~787	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R789	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R790	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R793,794	VRS-CY1JB103J	J	AA	10 kohm,1/16W
R795	VRD-ST2EE1R5J	J	AA	1.5 ohms,1/4W
R796	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R797	VRS-CY1JB104J	J	AA	100 kohm,1/16W
R798	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R799	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R801	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R802	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R803	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R804,805	VRD-ST2EE470J	J	AA	47 ohms,1/4W
R806	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R807	VRD-ST2EE100J	J	AA	10 ohm,1/4W
R808	VRD-RT2HD222J	J	AA	2.2 kohms,1/2W
R841	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R842	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R843	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R844	VRD-ST2EE820J	J	AA	82 ohms,1/4W
R853	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R854	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R857	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R858	VRD-ST2CD221J	J	AA	220 ohms,1/6W
R859	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R864	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R901,902	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R903,904	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R905,906	VRS-CY1JB821J	J	AA	820 ohms,1/16W
R907,908	VRS-CY1JB563J	J	AA	56 kohms,1/16W
R909,910	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R913,914	VRN-VV3AAR10J	J	AB	0.1 ohm,1W
R915,916	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
R917~920	VRN-VV3DAR22J	J	AC	0.22 ohms,2W
⚠ R921,922	VRG-ST2EC101J	J	AB	100 ohm,1/4W,Fusible
R923,924	VRS-CY1JB102J	J	AA	1 kohm,1/16W
R925	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R927,928	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R935~937	VRD-ST2CD563J	J	AA	56 kohms,1/6W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R940,941	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R942,943	VRD-RT2HD102J	J	AA	1 kohm,1/2W
R944,945	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R946	VRS-CY1JB473J	J	AA	47 kohms,1/16W
R947	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R949	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R950	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R952~955	VRD-ST2EE6R8J	J	AA	6.8 ohms,1/4W
R956	VRS-CY1JB000J	J	AA	0 ohm,Jumper,0.8×1.55mm,Green
R957,958	VRD-RT2HD102J	J	AA	1 kohm,1/2W
R965,966	VRD-RT2HD822J	J	AA	8.2 kohms,1/2W
R968	VRD-RT2HD681J	J	AA	680 ohms,1/2W
R970,971	VRD-ST2CD680J	J	AA	68 ohms,1/6W
RD01	VRS-CY1JB681J	J	AA	680 ohms,1/16W
RD02	VRS-CY1JB821J	J	AA	820 ohms,1/16W
RD03	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RD04	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
RD05	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RD06	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
RD07	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RD08	VRD-ST2CD681J	J	AA	680 ohms,1/6W
RD09	VRD-ST2CD821J	J	AA	820 ohms,1/6W
RD10	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RD11	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
RD12	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RD13	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
RD14	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
RD15	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
RD16	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RD17	VRS-CY1JB681J	J	AA	680 ohms,1/16W
RD18	VRS-CY1JB821J	J	AA	820 ohms,1/16W
RD19	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RD20	VRS-CY1JB152J	J	AA	1.5 kohms,1/16W
RD21	VRS-CY1JB222J	J	AA	2.2 kohms,1/16W
RD22	VRS-CY1JB272J	J	AA	2.7 kohms,1/16W
RD23	VRS-CY1JB392J	J	AA	3.9 kohms,1/16W
RD24	VRS-CY1JB562J	J	AA	5.6 kohms,1/16W
RD25	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RM1,2	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RT21	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RT24	VRS-CY1JB563J	J	AA	56 kohms,1/16W
RT25	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RT26	VRS-CY1JB563J	J	AA	56 kohms,1/16W
RT27~30	VRS-CY1JB102J	J	AA	1 kohm,1/16W
RT31	VRS-CY1JB103J	J	AA	10 kohm,1/16W
RT32	VRS-CY1JB682J	J	AA	6.8 kohms,1/16W

OTHER CIRCUITRY PARTS

BI102/CNS102	QCNWN2748AWPZ	J	AL	Connector Ass'y,8/6Pin
BI601/CNS2	QCNWN2750AWPZ	J	AG	Connector Ass'y,9/8Pin
BI703A/B	QCNWN2747AWPZ	J	AB	Flat Wire,2Pin
BI707/CNS707	QCNWN2505AWZZ	J	AC	Connector Ass'y,2/2Pin
BI801/CNS801	QCNWN2752AWPZ	J	AH	Connector Ass'y,9/8Pin
BI802/CNS802	QCNWN2754AWPZ	J	AG	Connector Ass'y,7/6Pin
BI902/CNS902	QCNWN2756AWPZ	J	AF	Connector Ass'y,5/4Pin
CNB1	QCNCWZO11AWZZ	J	AC	Socket,11Pin
CNP1	QCNCWYP16AWZZ	J	AD	Socket,16Pin
CNP2	92LCONE8P53254	J	AC	Plug,8Pin
CNP3	92LCONE6P53253	J	AC	Plug,6Pin
CNP3A	92LCONE6P53254	J	AC	Plug,6Pin
CNP4	92LCONE7P53253	J	AC	Plug,7Pin
CNP5	QCNCWZY16AWZZ	J	AD	Socket,16Pin
CNP6	QCNCWZX11AWZZ	J	AC	Socket,11Pin
CNP302	92LCONE2P5268	J	AB	Plug,2Pin
CNP303	QCNCM010PAWZZ	J	AD	Plug,14Pin
CNP701A	QCNCWYH27AWZZ	J	AE	Socket,27Pin
CNP701B	QCNCWYP27AWZZ	J	AE	Socket,27Pin
CNP702	QCNCWZY07AWZZ	J	AC	Socket,7Pin
CNP704	QCNCWZX16AWZZ	J	AD	Socket,16Pin
CNP706A	QCNCWYP06AWZZ	J	AC	Socket,6Pin
CNP706B	QCNCWYP06AWZZ	J	AC	Socket,6Pin
CNP707	92LCONE2P53253	J	AB	Plug,2Pin
CNP708	QCNCW012EAWZZ	J	AC	Socket,5Pin
CNP801	92LCONE8P5267X	J	AD	Plug,8Pin
CNP802	92LCONE6P53253	J	AC	Plug,6Pin
⚠ CNP805	QCNCM049BAWZZ	J	AC	Plug,2Pin
CNP902	92LCONE4P5267X	J	AB	Plug,4Pin
CNP971	92LCONE2P53253	J	AB	Plug,2Pin
CNS303	QCNCW010PAWZZ	J	AE	Socket,14Pin
CNS971	QCNWNA057AWPZ	J	AC	Connector Ass'y,2Pin

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
CNW3	QCNWNA087AWPZ	J	AF	Connector Ass'y,6/6Pin
⚠ F801	QFS-D402CAWNI	J	AC	Fuse,T4A L 250V
⚠ F802	QFS-D402CAWNI	J	AC	Fuse,T4A L 250V
⚠ F803	QFS-D202CAWNI	J	AC	Fuse,T2A L 250V
⚠ F804	QFS-D202CAWNI	J	AC	Fuse,T2A L 250V
FE301	RTUNS0027AWZZ	J	AU	FM Front End
FFC1	QCNWNA088AWPZ	J	AF	Flat Cable,16Pin
FFC4	QCNWN2701AWPZ	J	AD	Flat Cable,11Pin
FFC5	QCNWN2742AWPZ	J	AE	Flat Cable,16Pin
FFC701	QCNWN2738AWPZ	J	AE	Flat Cable,27Pin
FFC702	QCNWN2740AWPZ	J	AD	Flat Cable,7Pin
FFC706	QCNWN2755AWPZ	J	AD	Flat Cable,6Pin
FJ1	RCORFA001AWZZ	J	AB	Ferrit Bead
FL701	VVKNA12MM44-1	J	AX	FL Display
FW901	QCNWN2746AWPZ	J	AC	Flat Wire,5Pin
JK690	QSOCJ0224AWZZ	J	AC	Jack,Video/AUX
JK701	QJAKM0004AWZZ	J	AK	Jack,Headphones
JK953	QSOCJ0111AWZZ	J	AD	Sub Woofer Output
M1	92LMTR5529AASY	J	AD	Motor with Gear [Tray]
M1A	92LMTR5515CASY	J	AS	Motor with Chassis [Spindle]
M2	92LMTR5529AASY	J	AD	Motor with Gear [Main Cam]
M2A	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
M971(202-3)	RMOTV0027AWZZ	J	AM	Motor,Air Cooling Fan
⚠ RL841	RRLYD0018AWZZ	J	AH	Relay
RL914	RRLYD0016AWZZ	J	AK	Relay
RX1	VHPGP1S094HCZ	J	AF	Photo Interrupter
RX701	VHLGP1UM271-1	J	AH	Remote Sensor,GP1UM271
SO301	QTANC0105AWZZ	J	AE	Terminal,FM Antenna
SO901	QTANA0426AWZZ	J	AE	Terminal,Speaker
SP1	RSP-ZA018AWZZ	J	AY	Woofer
SP2	RSP-ZA018AWZZ	J	AY	Woofer
SP3	RSP-ZA019AWZZ	J	AR	Tweeter
SP4	RSP-ZA019AWZZ	J	AR	Tweeter
SW1	QSW-P9003AWZZ	J	AD	Switch,Push Type [CLAMP]
SW1A	QSW-F9001AW01	J	AD	Switch,Leaf Type [PICKUP IN]
SW2	QSW-P9003AWZZ	J	AD	Switch,Push Type [TRAY SW1]
SW3	QSW-P9003AWZZ	J	AD	Switch,Push Type [TRAY SW2]
SW4	QSW-P9006AWZZ	J	AF	Switch,Push Type [DISC]
SW701	QSW-K0005AWZZ	J	AC	Switch,Key Type [ON/STAND-BY]
SW702	QSW-K0005AWZZ	J	AC	Switch,Key Type [CLOCK/TIMER]
SW703	QSW-K0005AWZZ	J	AC	Switch,Key Type [REVERSE MODE]
SW704	QSW-K0005AWZZ	J	AC	Switch,Key Type [REVERSE PLAY]
SW705	QSW-K0005AWZZ	J	AC	Switch,Key Type [PRESET DOWN]
SW706	QSW-K0005AWZZ	J	AC	Switch,Key Type [ASPM]
SW707	QSW-K0005AWZZ	J	AC	Switch,Key Type [PTY.TI SEARCH]
SW708	QSW-K0005AWZZ	J	AC	Switch,Key Type [DISPLAY MODE]
SW709	QSW-K0005AWZZ	J	AC	Switch,Key Type [CD]
SW710	QSW-K0005AWZZ	J	AC	Switch,Key Type [TUNER (BAND)]
SW711	QSW-K0005AWZZ	J	AC	Switch,Key Type [VIDEO/AUX]
SW712	QSW-K0005AWZZ	J	AC	Switch,Key Type [TAPE]
SW713	QSW-K0005AWZZ	J	AC	Switch,Key Type [REC/PAUSE]
SW714	QSW-K0005AWZZ	J	AC	Switch,Key Type [TUNING/TIME UP]
SW715	QSW-K0005AWZZ	J	AC	Switch,Key Type [TUNING/TIME DOWN]
SW716	QSW-K0005AWZZ	J	AC	Switch,Key Type [STOP]
SW717	QSW-K0005AWZZ	J	AC	Switch,Key Type [PLAY]
SW718	QSW-K0005AWZZ	J	AC	Switch,Key Type [PRESET UP]
SW719	QSW-K0005AWZZ	J	AC	Switch,Key Type [X-BASS/DEMO]
SW720	QSW-K0005AWZZ	J	AC	Switch,Key Type [EQUALISER]
SW721	QSW-K0005AWZZ	J	AC	Switch,Key Type [MEMORY/SET]
SW722	QSW-K0005AWZZ	J	AC	Switch,Key Type [DIRECT PLAY]
SW723	QSW-K0005AWZZ	J	AC	Switch,Key Type [DISC 1]
SW724	QSW-K0005AWZZ	J	AC	Switch,Key Type [DISC 2]
SW725	QSW-K0005AWZZ	J	AC	Switch,Key Type [DISC 3]
SW726	QSW-K0005AWZZ	J	AC	Switch,Key Type [DISC 4]
SW727	QSW-K0005AWZZ	J	AC	Switch,Key Type [DISC 5]
SW728	QSW-K0005AWZZ	J	AC	Switch,Key Type [OPEN/CLOSE]
VR701	QSW-ZA002AWZZ	J	AF	Switch,Rotary Type [VOLUME]
WTM901	QCNCW019EAWZZ	J	AB	Wire Holder,5Pin

CD MECHANISM PARTS

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
304	NSFTM0020AWFW	J	AD	Shaft,Guide
305	92LMCUSN1524A	J	AD	Cushion
⚠ 306	92LHPC1LFASY	J	BB	Pickup Unit Ass'y
306- 1	————		—	Pickup Unit (Not Replacement Item)
306- 2	NGERR0043AFZZ	J	AC	Gear,Rack
306- 3	MSPRC0961AFZZ	J	AA	Spring,Rack
307	PCUSG0001AWSA	J	AD	Cushion
308	PCUSG0004AWSA	J	AD	Cushion
701	XBSSD26P06000	J	AA	Screw,ø2.6×6mm
703	XBBSD20P03000	J	AA	Screw,ø2×3mm
704	LX-WZ1070AFZZ	J	AA	Washer,ø1.5×ø3.8×0.25mm
M1A	92LMTR5515CASY	J	AS	Motor with Chassis [Spindle]
M2A	92LMTR1854BASY	J	AP	Motor with Gear [Sled]
SW4	QSW-F9001AW01	J	AD	Switch,Leaf Type [Pickup In]

CHANGER MECHANISM PARTS

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
101	GCOVA1513AWZZ	J	AF	Disc Tray
102	GCOVA1514AWZZ	J	AF	Guide Tray
103	LANGG0008AWZZ	J	AD	Outer Tray Guide
104	LANGG0009AWZZ	J	AC	Inner Tray Guide
105	LCHSM0194AWZZ	J	AP	Main Base
106	LHLDZ9017AWZZ	J	AF	CD Mechanism Holder
107	LPLTP0014AWZZ	J	AK	Top Plate
108	LPLTP0015AWZZ	J	AG	Gear Plate
109	MHOLD5529ASY	J	AP	Up/Down Holder Ass'y
109- 1	LHLDM9001AWZZ	J	AD	Stabilizer
109- 2	LHLDZ9019AWM1	J	AK	Up/Down Holder Ass'y
109- 3	LPLTM0017AWZZ	J	AB	Stabilizer Plate
109- 4	LPLTMA001AWFW	J	AC	Plate
109- 5	PMAGF0003AWZZ	J	AF	Magnet
110	MLEVP0129AWZZ	J	AC	Tray Lock Lever
111	MLEVP0130AWZZ	J	AG	Gear Up/Down Board
112	MLEVP0131AWZZ	J	AD	Mechanism Up/Down Board (L)
113	MLEVP0132AWZZ	J	AD	Mechanism Up/Down Board (R)
114	MLEVP0133AWZZ	J	AC	Mechanism Clamp Board
115	MLEVP0134AWZZ	J	AD	L/R Joint Lever
116	MLEVP0135AWZZ	J	AC	Tray Set Lever
117	MLEVP0136AWZZ	J	AC	Mechanism Clamp Switch Lever
118	MLEVP0137AWZZ	J	AC	Mechanism Clamp Switch Arm
119	MLEVP0138AWZZ	J	AB	Inner Gear Up/Down Lever
120	MLEVP0139AWZZ	J	AC	Outer Gear Up/Down Lever
121	MSPRC0044AWFJ	J	AB	Shift Spring
122	MSPRD0191AWFJ	J	AC	Disc Stop Spring
123	MSPRD0192AWFJ	J	AB	Balance Spring
124	NGERH0176AWZZ	J	AF	Tray Big Gear
125	NGERH0177AWZZ	J	AC	Tray Front Gear A
126	NGERH0178AWZZ	J	AC	Tray Front Gear B
127	NGERH0179AWZZ	J	AC	Tray Rear Gear A
128	NGERH0180AWZZ	J	AB	Tray Rear Gear B
129	NGERH0181AWZZ	J	AC	Mechanism Clamp Gear A
130	NGERH0182AWZZ	J	AC	Mechanism Clamp Joint Gear
131	NGERH0183AWZZ	J	AC	Mechanism Clamp Board Gear
132	NGERH0184AWZZ	J	AC	Tray Rear Joint Gear A
133	NGERH0185AWZZ	J	AC	Tray Rear Joint Gear B
134	NGERH0186AWZZ	J	AC	Tray Rear Joint Gear C
135	NGERH0187AWZZ	J	AB	Tray Rear Drive Gear
136	NGERH0188AWZZ	J	AC	Tray Drive Gear
137	NGERH0189AWZZ	J	AB	Tray Front Drive Gear
138	NGERH0190AWZZ	J	AC	Tray Front Joint Gear
139	NGERH0191AWZZ	J	AE	Mode Big Gear
140	NGERH0192AWZZ	J	AC	G-Up/Down Gear A
141	NGERH0193AWZZ	J	AC	G-Up/Down Gear B
142	NGERH0194AWZZ	J	AB	Mechanism Up/Down Gear A
143	NGERH0195AWZZ	J	AC	Mechanism Up/Down Gear B
144	NGERH0196AWZZ	J	AC	Mechanism Clamp Switch Gear
145	NGERH0198AWZZ	J	AB	Reduction Gear A
146	NGERH0199AWZZ	J	AB	Reduction Gear B
147	NGERH0200AWZZ	J	AB	Reduction Gear C
148	NGERH0201AWZZ	J	AB	Reduction Gear D
149	NGERH0202AWZZ	J	AB	Up/Down Reduction Gear E
150	NGERH0203AWZZ	J	AB	Up/Down Reduction Gear F
151	NGERH0204AWZZ	J	AB	Tray Reduction Gear E

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
152	NSFTT0084AWFD	J	AD	Shaft,Main Base
801	LX-BZA006AWFD	J	AB	Screw,Special
802	LX-EZ0005AWFD	J	AA	Screw,Special
803	XEBSD20P10000	J	AA	Screw,ø2×10mm
804	XEBSD30P10000	J	AA	Screw,ø3×10mm
M1	92LMTR5529AASY	J	AD	Motor with Gear [Tray]
M2	92LMTR5529AASY	J	AD	Motor with Gear [Main Cam]
SW1	QSW-P9003AWZZ	J	AD	Switch,Push Type [CLAMP]
SW2	QSW-P9003AWZZ	J	AD	Switch,Push Type [TRAY SW1]
SW3	QSW-P9003AWZZ	J	AD	Switch,Push Type [TRAY SW2]
SW4	QSW-P9006AWZZ	J	AF	Switch,Push Type [DISC]

CABINET PARTS

201	CCABA5612AW01	J	BC	Front Panel Ass'y
201- 1	————		—	Front Panel
201- 2	GCOVA1364AWSA	J	AB	Indicator,Timer
201- 3	GCOVA1524AWSA	J	AC	Cover,Sensor
201- 4	GCOVAA036AWSA	J	AH	Decoration Panel,Front A
201- 5	GCOVA1532AWSA	J	AG	Decoration Panel,Front B
201- 6	GCOVAA023AWSA	J	AH	Panel,Cassette Cover
201- 7	GDORF0117AWSA	J	AF	Holder,Cassette
201- 8	HBDGB1001AWSA	J	AD	Badge,SHARP
201- 9	HDECQ1111AWSA	J	AB	Window,Cassette
201-10	HDECQ1112AWSA	J	AD	Panel,FL Display
201-11	HDECQ1113AWSA	J	AD	Indicator,Volume Knob
201-12	HDECZA004AWSB	J	AQ	Decoration Panel,Center
201-13	JKNBZ0994AWSA	J	AE	Button,Power ON/STAND-BY
201-14	JKNBZ0995AWSA	J	AE	Button,Disc Select
201-15	JKNBZ0996AWSA	J	AE	Button,X-Bass
201-16	JKNBZ0997AWSB	J	AF	Button,Play/Stop
201-17	JKNBZ0998AWSB	J	AF	Button,Play/Rev
201-18	JKNBZ0999AWSB	J	AF	Button,Function
201-19	JKNBZ1000AWSB	J	AE	Button,RDS,Tuning/Rec
201-20	MLIFP0008AWZZ	J	AD	Damper
201-21	MLOKC0015AWZZ	J	AC	Lock Lever,Cassette
201-22	MSPRD0180AWFJ	J	AB	Spring,Cassette Lock Lever
201-23	MSPRD0197AWFJ	J	AC	Spring,Cassette Holder
202	CFANB5609AW01	J	AQ	Fan Motor Ass'y
202- 1	LANGK0434AWFW	J	AF	Bracket,Fan Motor
202- 2	NFANP0001AWZZ	J	AD	Rotary,Fan
202- 3(M971)	RMOTV0027AWZZ	J	AM	Motor,Air Cooling Fan
202- 4	92LCSPR1431C	J	AA	Spring,Ring
203	92LCSPR1431C	J	AA	Spring,Ring
204	GCAB-3100AWSA	J	AW	Cabinet
205	GCOVA1525AWSB	J	AG	Disk Tray Cover
210	GITARA035AWSA	J	AM	Rear Panel,Bottom
211	GITARA038AWSA	J	AK	Rear Panel,Top
212	JKNBK0104AWSA	J	AK	Knob,VOLUME
213	KMECBA003AWZZ	J	BC	Tape Mechanism Ass'y
213- 1	92PF513-903	J		Head Plate Block
213- 2	92PF525-372	J		Motor with Pulley
213- 3	92PF567-716	J		Tape Mechanism PWB Ass'y
213- 4	92PF522-063	J	AZ	Clutch Ass'y Block
213- 5	92PFF20B-13	J		Belt,Main
213- 6	92PF514-133	J	AL	Pinch Roller Block,Right
213- 7	92PF514-134	J	AL	Pinch Roller Block,Left
213- 8	92PFF19S-31	J		Belt,FF/REW
214	LANGT0042AWFW	J	AC	Bracket,PWB Suport
215	LBND-1011AWZZ	J	AA	Nylon Band
⚠ 216	LBSHC0002AWZZ	J	AD	Bushing,AC Power Supply Cord
217	LCHSM0197AWFW	J	AP	Chassis,Main
218	LCHSZ0026AWZZ	J	AM	Chassis,Changer Unit
219	LHLDZ9024AWZZ	J	AD	Holder,FL Display
220	PCUSG0022AWZZ	J	AB	Cushion,Leg
221	PRDAR0323AWFW	J	AV	Heat Sink,Main
222	PRDARA023AWFW	J	AG	Heat Sink,Sub
223	PSHEPA003AWZZ	J	AH	Dust Sheet
224	PSHEPA006AWZZ	J	AE	Edge Light Sheet
225	PSHEZA012AWZZ	J	AK	Shield Sheet,Power PWB
226	PSHEZA013AWZZ	J	AF	Shield Sheet,Main PWB
227	PSLDM3015AWFW	J	AD	Shield Plate
⚠ 228	QACCE0015AW00	J	AK	AC Power Supply Cord
229	QCNWN1860AWZZ	J	AC	Lead Wire with Lug
⚠ 230	QFSHD0001AWZZ	J	AB	Holder,Fuse
231	QLUGP0001AWZZ	J	AC	Lug (LG1~4)
232	TLABS0354AWZZ	J	AC	Label,Class 3A
233	92LNBAND1318A	J	AA	Nylon Band,80mm
602	LX-JZ0010AFFD	J	AA	Screw,ø3×10mm
603	LX-JZ0022AFFD	J	AA	Screw,ø3×10mm
604	LX-JZ0036AWFD	J	AB	Screw,Special
605	LX-JZ0037AWFD	J	AB	Screw,ø3×12mm
606	LX-LZ0002AW00	J	AC	Snap Rivet,Main PWB
607	LX-LZA003AWZZ	J	AC	Snap Rivet,Power PWB
608	XBBSD20P04000	J	AA	Screw,ø2×4mm
609	XEBSD26P08000	J	AA	Screw,ø2.6×8mm
610	XEBSD30P10000	J	AA	Screw,ø3×10mm
611	XESSD30P10000	J	AA	Screw,ø3×10mm
612	XHBSD30P06000	J	AA	Screw,ø3×6mm
613	XHBSD40P06000	J	AA	Screw,ø4×6mm
614	XJBSD30P08000	J	AA	Screw,ø3×8mm
615	XJBSD30P10000	J	AA	Screw,ø3×10mm
616	XJBSF30P08000	J	AA	Screw,ø3×8mm
617	XJSSD30P10000	J	AA	Screw,ø3×10mm

SPEAKER BOX PARTS

901	GBOXSA017AWSA	J	BH	Speaker Box Ass'y
901-1	————	J		Speaker Box
901-2	QCNWNA042AWZZ	J	AN	Network Cord Ass'y
902	CWAKPA002AW01	J	AS	Net Frame Ass'y
903	HPNLSA010AWSA	J	AT	Front Panel
904	LHLDZ8002AWSA	J	AG	Catching Holder
905	PCUSG0147AWZZ	J	AC	Cushion,Foot
906	TSPC-A040AWZZ	J		Label,Specification
907	XMTZD35P14000	J	AC	Screw,ø3.5×14mm
908	XMBZD35P16000	J	AC	Screw,ø3.5×16mm
SP1,2	RSP-ZA018AWZZ	J	AY	Woofer
SP3,4	RSP-ZA019AWZZ	J	AR	Tweeter

ACCESSORIES/PACKING PARTS

1	92LBAG1460C1	J	AB	Polyethylene Bag,Accessories
2	92LFANT1535A	J	AF	FM Antenna
3	QANTL0005AWZZ	J	AG	AM Loop Antenna
4	RRMCG0409AWSA	J	AS	Remote Control
4-1	GFTAB1049AWSA	J	AE	Battery Lid,Remote Control
5	SPAKAA011AWZZ	J	AL	Packing Add.,Unit,Left/Right
6	SPAKCA049AWZZ	J	AS	Packing Case
8	SSAKH0094AWZZ	J	AE	Polyethylene Bag,Unit
11	TINSZA007AWZZ	J	AQ	Operation Manual
13	TLABZ0605AWZZ	J	AB	Label,Saving Energy
14	TLABZ0607AWZZ	J	AB	Label,Energy (GEA)
15	TLABZA025AWZZ	J		Label,Pop
16	————		—	Battery (Not Replacement Item)
17	SPAKAA014AWZZ	J	AK	Packing,Add.,Front Speaker,Top/Bottom
18	SPAKZA012AWZZ	J	AD	Sheet,Speaker
19	SSAKH0099AWZZ	J	AD	Polyethylene Bag,Speaker

P.W.B. ASSEMBLY (Not Replacement Item)

⚠ PWB-A1~3	92LPWB5615MANS	J	—	Main/Power/Terminal
PWB-B1~4	92LPWB5612DPLS	J	—	Display/Switch/Led/Jack
PWB-C	92LPWB5615TUNS	J	—	Tuner
PWB-D	92LPWB5612CDUS	J	—	CD MP3
PWB-E	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)
PWB-F	QPWBF1055AWZZ	J	AE	CD Changer Motor (PWB Only)

OTHER SERVICE PARTS

	UDSKA0004AFZZ	J	AZ	CD Optical Pickup Lens Cleaner Disc

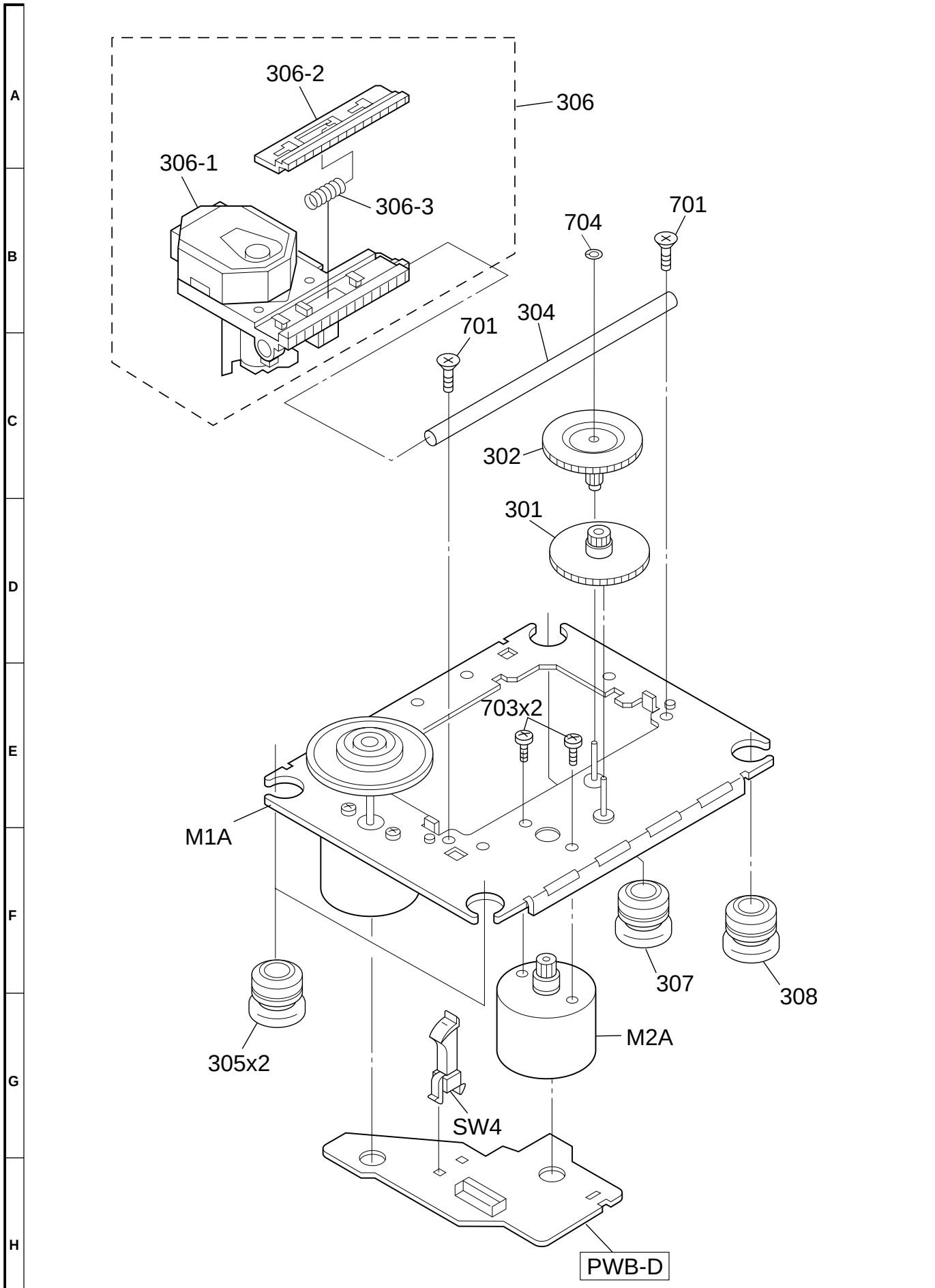


Figure 7 CD MECHANISM EXPLODED VIEW

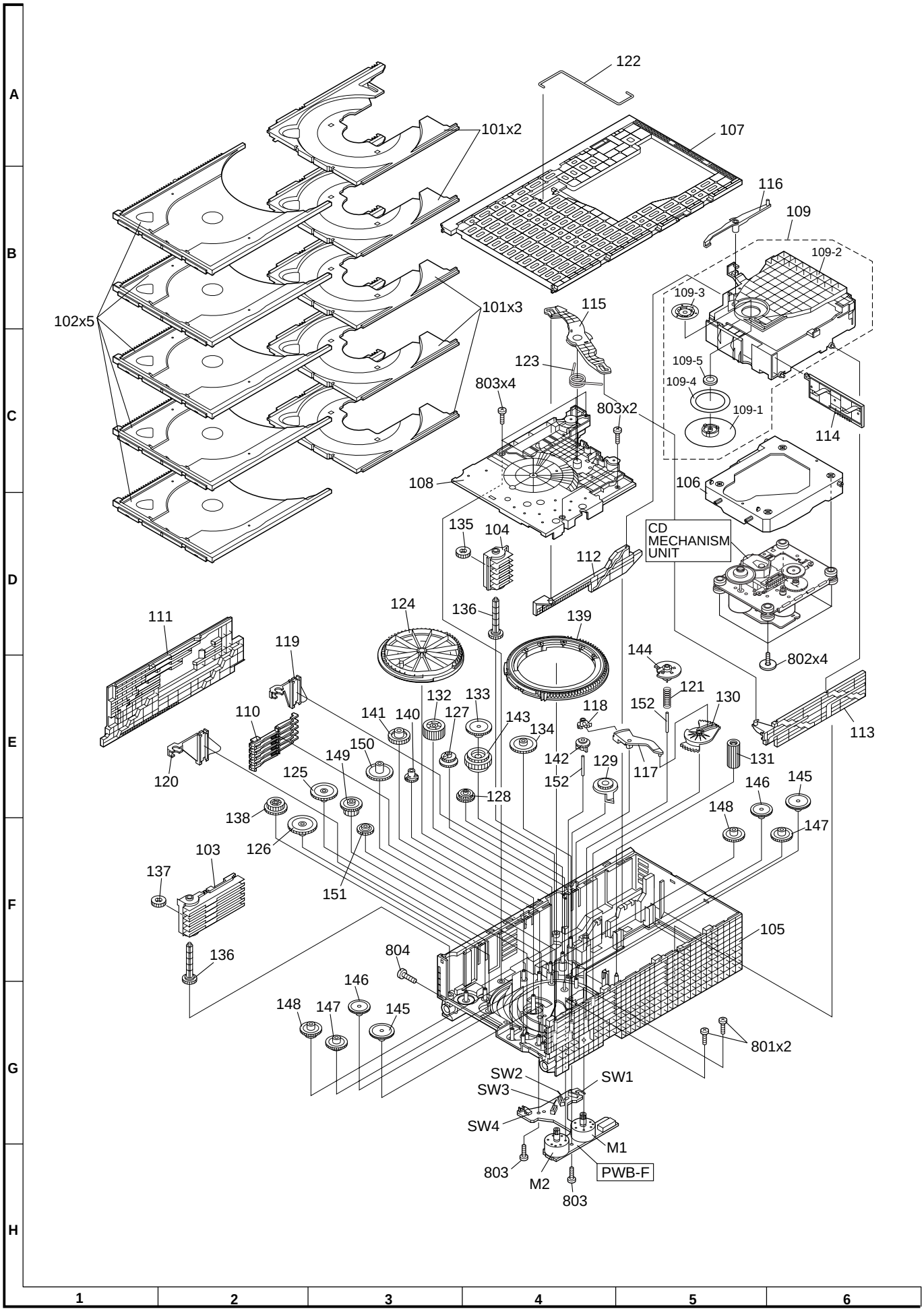
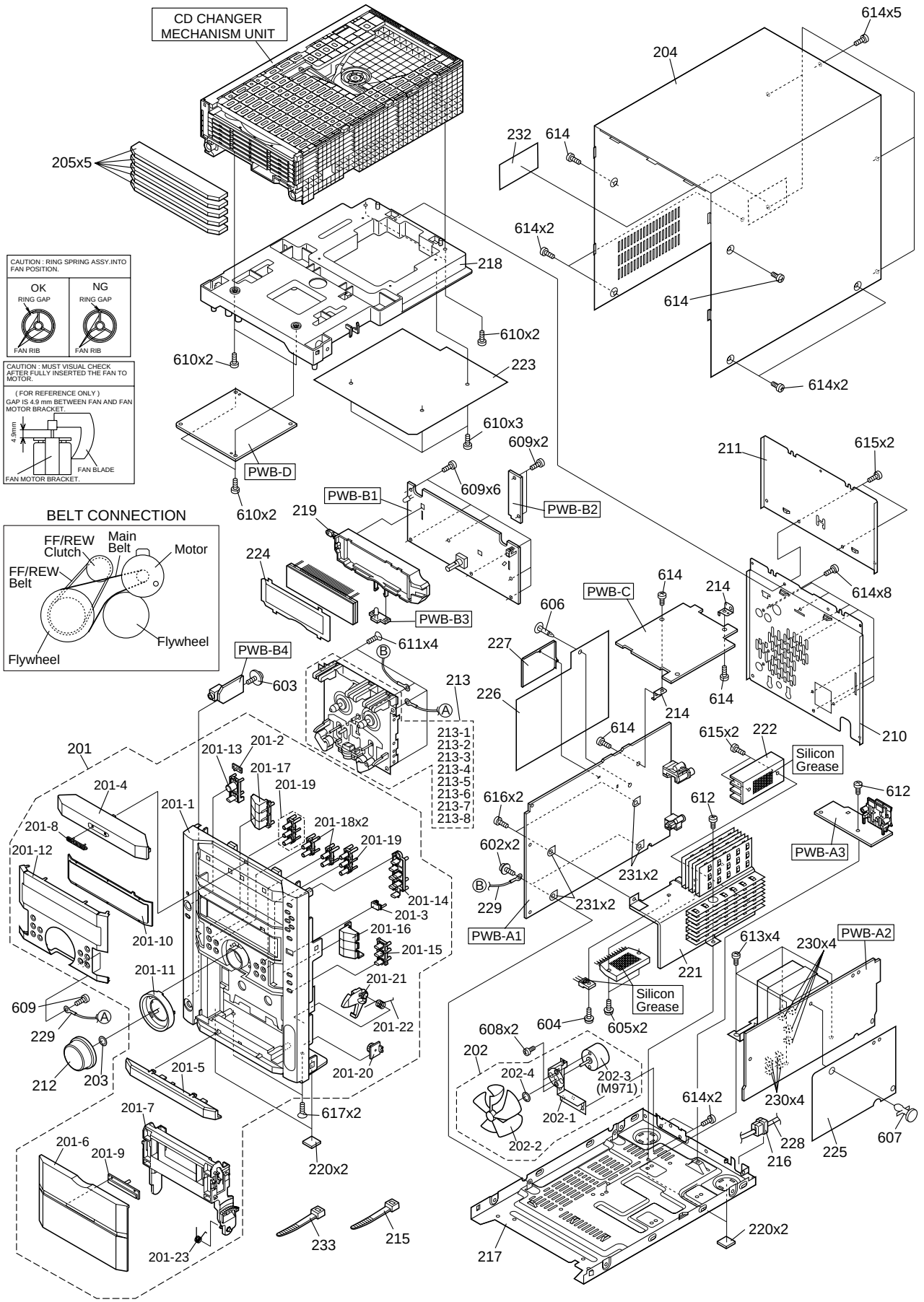


Figure 8 CD CHANGER MECHANISM EXPLODED VIEW



CAUTION : RING SPRING ASSY.INTO FAN POSITION.

OK	NG
RING GAP	RING GAP
FAN RIB	FAN RIB

CAUTION : MUST VISUAL CHECK AFTER FULLY INSERTED THE FAN TO MOTOR.

(FOR REFERENCE ONLY)

GAP IS 4.9 mm BETWEEN FAN AND FAN MOTOR BRACKET.

4.9mm, FAN BLADE, FAN MOTOR BRACKET.

Note: Only the unit and consumable parts are supplied as parts supply for the Tape mechanism.

Figure 9 CABINET EXPLODED VIEW

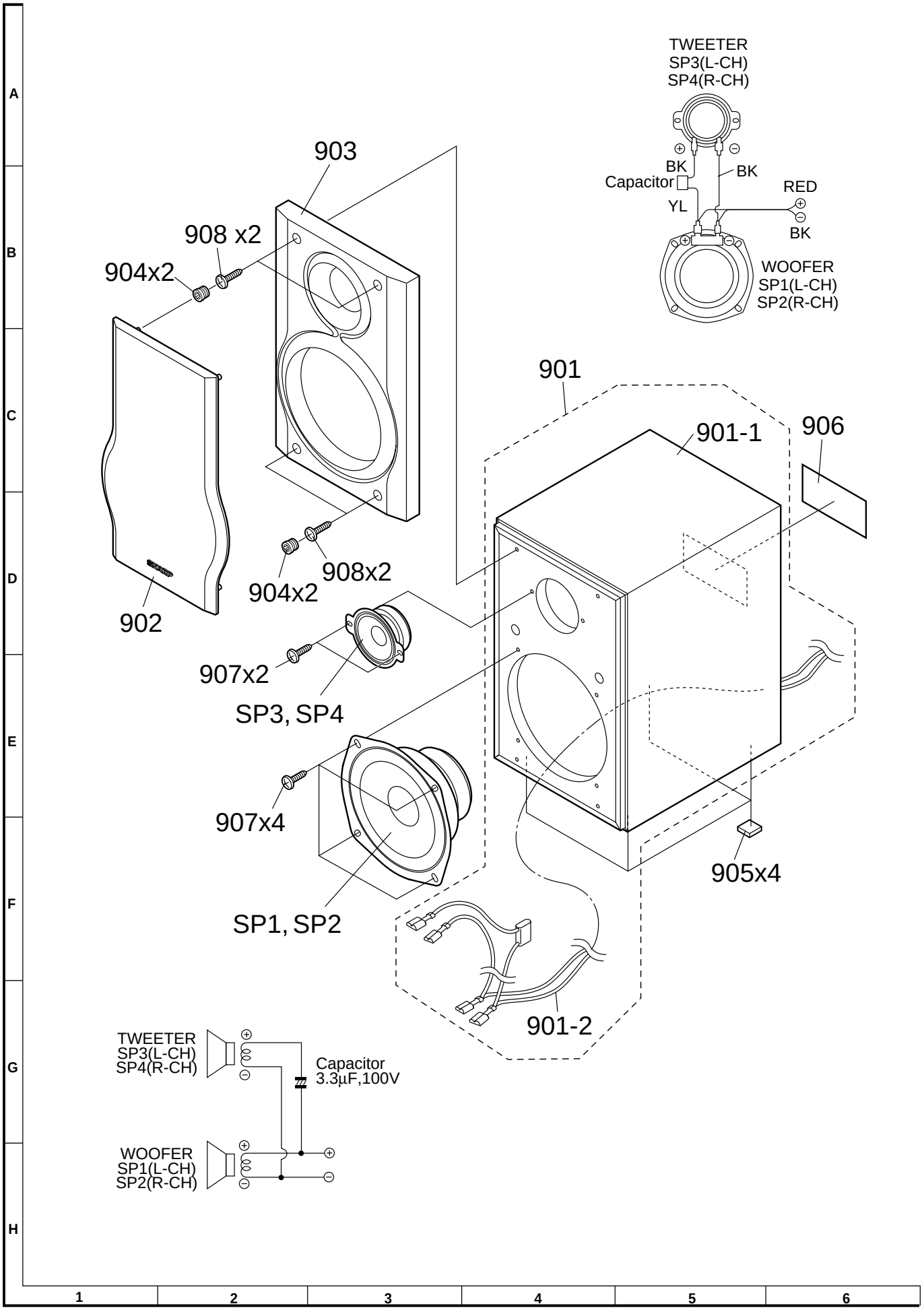


Figure 10 SPEAKER EXPLODED VIEW

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